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ORIGINAL LECTURES.

THE CEREBRAL PALSY OF CHILDREN.

Clinical Lectures delivered at the Infirmary for Nervous Diseases.

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LECTURE III.

BILATERAL SPASTIC HEMIPLEGIA.

SYNOMYS.—Spastic rigidity of the newborn (Little). Tonic contraction of extremities. Essential contraction. Spastic rigidity. Permananter Kinder-tetanus (Stromeyer). Spastic paralysis of children (Adams). Spastic diplegia (Gee). Spasme musculaire idiopathique (Delpech).

We have seen that in infantile hemiplegia a great majority of the cases occur within the first three years of life, and in only a limited number is the condition congenital, either the result of intra-uterine disease or of accident during parturition. In bilateral hemiplegia and in paraplegia the reverse holds good; in a large proportion of the cases the trouble dates from birth, and is the result of injury to the child during its passage into the world. Hence the appropriateness of the term birth palsy, applied to these cases by Gowers. Strictly speaking, these cases should be considered together, as they depend on essentially similar conditions, and we may find the arms so slightly affected that it is difficult to say whether the case is one of diplegia or paraplegia; but there is a sufficient number of clearly defined cases in each group to make a division advisable, and there are questions relating to the spastic paraplegia of children which deserve separate consideration.

To the orthopædic surgeons we owe the greater part of our knowledge of these cases. Heine¹ understood them thoroughly, and to him, I think, belongs the credit of first recognizing their cerebral origin, and separating them from the ordinary infantile paralysis. He clearly distinguished cases of hemiplegia cerebralis spastica and paraplegia cerebralis spastica, using these expressive names which have since been employed with minor modifications by Benedict, Bernhardt and others. At page 163 of his monograph is also to be found, perhaps the first, certainly a most accurate, account of post-hemiplegic movements.

Little, the well-known London orthopædic surgeon, has contributed more than any one to the subject, and to him we owe, in great part, the accurate knowledge of the

relation of the cases to abnormal parturition. His paper in vol. iii. of the London Obstetrical Society's *Transactions*, 1862, contains an immense amount of material. The clinical description which he gives at pages 301-303 has not been excelled. In France the cases of spastic rigidity are sometimes called Little's disease (*maladie de Little*). The writings of Delpech,¹ Stromeyer² and Adams,³ particularly of the latter, to whom we owe the name spastic paralyses of children, contain careful descriptions; and more recently Rupprecht⁴ has considered the subject from a surgical standpoint.

Bilateral hemiplegia is characterized by a spastic condition of the extremities, dating from or shortly succeeding birth; occasionally following the specific fevers or an attack of convulsions. The legs are more involved than the arms; there is no wasting; no disturbance of sensation; the reflexes are increased. The mental condition is profoundly disturbed; the patients are usually imbeciles or idiots, helpless in mind and body. Ataxic and athetoid movements of the most exaggerated kind may occur.

Anatomically there is bilateral sclerosis or porencephalous defect of motor areas of the cortex cerebri.

Case I.—Anna S., æt. three and a half years. First child; no instruments used in labor; full term. An "inward convolution" on tenth day; lay for three days apparently dead. First teeth came at sixth month. Child has not progressed well. Head seventeen and a half inches in circumference.

February 29, 1888. (Aged now six years; says only "mamma," "papa" and "no." Strabismus, no nystagmus. Has thriven and grown, understands everything. Head long and narrow; biparietal diameter five inches; occipito-frontal six and a quarter inches; circumference eighteen and a half inches. Face blank, but laughs. Conjunctivitis; teeth bad. Uses hands to eat; arms stiff at elbows. Legs stiff in extension. Well nourished. When cries gets very rigid. Pes equino-varus. Feet cross when attempts to stand; cannot walk; knee-jerk +, no clonus.

Case II.—Amelia P., æt. fourteen months. M. 5, 423. Born at seven months; no instruments; reason assigned for miscarriage carrying a heavy weight. First child. Great weakness noticed at birth, but nothing else; child very small; no spasms; has never had any serious illness; has never cut any teeth; never walked; never talked, except for the last two months to say "papa" and "mamma." Convergent strabismus. Never has had any skin eruption. Keeps the legs crossed. Recognizes the parents; does not fix attention; does not sit up well; wobbles the head about. Knee-jerk ++. Plantar reflex

¹ Orthomorphie, Paris, 1828.

² Stromeyer: Handbuch der Chirurgie, Bd. ii.

³ Adams: Club-Foot, London, 1866.

⁴ Rupprecht: Ueber angeborene spastische Gliederstarre und spastische Contracturen, Volkmann's klin. Vorträge, No. 198.

¹ Spinales Kinderlähmung, zweite Auflage, 1860.

+. Head microcephalic, symmetrical; fontanelles closed; circumference of head seventeen and a half inches; occipito-frontal diameter six inches; biparietal diameter five and a half inches; bridge of nose sunken. Arms and legs stiff, moves them with freedom; takes things with the left hand, does not grasp well; right arm especially stiff at shoulder and elbow; while under observation legs stiffened in extension; in the interval the legs can be extended and flexed easily; stands fairly well when supported.

Case III.—Everett A. P., *æt.* five years. Parents alive and healthy; no nervous diseases in family. This child is the oldest of three. Born at seven months; no instruments; small, very weak, jaundiced. Noticed stiffness when only a week or two old, in legs and arms; has never walked. Does not know his letters. Never had a spasm; had scarlet fever. Hands have always been free from spasm; elbows stiffer sometimes than at others. Temper not very good. *Status præsens*: Legs; color, temperature, nutrition good. Knees, ankles and hips stiff; cannot walk, when supported stands on toes with legs crossed. Spasm in facial muscles at times. Knee-jerk +. Can use hands well; elbows stiff. Cremasteric and abdominal reflexes present. Spine straight. Phimosis; teeth fair. No nystagmus. Bright, talks well. Head—biparietal diameter five and a half inches; occipito-frontal seven inches; circumference nineteen and three-quarters inches. In bed sits with spine doubled, cannot sit up straight.

Case IV.—Florence S., *æt.* four years. M. 5, 137. No forceps used. No trouble during pregnancy. Five older children. Father and mother healthy. Nothing special about child at birth; nursed well. Spasms on the second day. Has not walked or crept. Does not talk; understands what is said. Is well nourished; fairly well grown child; looks bright, and is fairly intelligent, though expression is spoilt by the constant dribbling from the open mouth. Head wobbles from side to side. Head measures nineteen and a half inches in circumference, and is symmetrical. Sutures closed, and a little ridged in their course. Arms not well developed, and are stiff, but can be readily flexed at elbows, wrists and fingers. Gets so stiff at times that she can be lifted without bending. Arms stiffen in extension. Moderate grasping power. Knees and thighs can be flexed, abducted and adducted. Like arms, they stiffen and get hard. Cannot walk. Plantar reflexes not marked. No ankle clonus. Knee-jerk +. Teeth much decayed. No convulsions now. Sleeps well, but will not sleep in the dark, and awakens at once if light is removed.

February 4, 1888. Will be six years old in August. Is small for her age. Does not get so stiff now, only once or twice a day, not, as before, a dozen times. Very characteristic posture of legs—feet extended and legs crossed. Stands on toes, generally on right foot, with the left leg diagonally across the right. Holds her head better; is not so cross. Hands get stiff, and fingers separate and extend when she attempts to take anything.

Case V.—Jennie S., *æt.* ten years. M. 7, 177. Labor difficult. Head much flattened in birth, and child was unconscious for half an hour. First child. Second died at four years from accident. Mother thinks child always used arms and legs with difficulty. Never learned to walk or use the hands. Dentition natural. Intellect deficient, yet understands ordinary conversation. Has not

learned anything. Knee-jerk ++; muscles rigid; arms and legs almost contractured. Color pale, appetite good, sleeps well. Bowels regular. Heart normal. Lower jaw retreats. Occipito-frontal diameter, six and a half inches; occipito-mental diameter, eight and a quarter inches; biparietal diameter, five inches.

Case VI.—Lydia B., *æt.* two years and three months. M., 158. Elder of two children, other healthy. Born without instruments. Head slightly microcephalic. Biparietal diameter, four and three-quarters inches; occipito-frontal, five and a half inches. Fontanelles closed. Forehead prominent in central portion. Internal strabismus. Mouth open, no dribbling. Intelligence poor, speaks little, smiles and looks intelligent. Dentition began at six months, last tooth is being cut now. Arms stiff, especially left. For a time kept left hand closed. Legs stiff, slight extension of feet. Tendency to talipes equinus, legs flexed with difficulty, sits with legs crossed. Never has used legs properly; they are thin and cold. *Electrical examination*: Quantitative change, but no reaction of degeneration; had a spasm soon after first visit; tendon reflexes increased.

Case VII.—Nellie M., *æt.* six years. M. 5, 291. Mother died of phthisis; one child died at eleven months, of convulsions, while teething. This child is one of twins, the other born dead. Some defect noticed at birth; teething natural. Never had convulsions. Never has been able to sit up or walk; has to be fed. Right hand weak and small, can take some things in it. Both shoulders stiff, a little pressure relaxes them. Thighs are crossed. Legs have clasp-knife rigidity; left leg crosses right; this position is nearly constant. Legs can, however, be placed side by side; right leg decidedly larger than left. Foot strongly extended on leg; ankle-joint cannot be flexed. Knee-jerk ++; no ankle clonus. Expression idiotic; speaks no word; temper bad; mouth open; constant dribbling; does not cry much. Head microcephalic, supro-orbital arches marked. Face prognathous. Forehead low, narrow; does not support head, but it wobbles from side to side. Circumference of head, seventeen and a half inches. Chest rickety, costal margins everted; sternum depressed; antero-posterior and lateral spinal curvature. Convergent strabismus, nystagmus.

Case VIII.—Harry B., *æt.* one year. M. 5, 168. One brother said to have some brain trouble, one died in a convulsion at the age of three years, one died of congestion of brain. Two other healthy children. Fourth child; labor natural. Was backward about walking. Since summer of 1885 has twitched hands and feet. Head symmetrical, measures nineteen inches; expression bright and intelligent. Temper good. Makes no sounds, seldom cries. Uses his hands well; at times clinches hands and folds them over heart, and they get stiff. Eyes turned a little. Moves feet with a slight spasmodic movement. Legs cross when at rest, when he is lifted they get stiff.

Case IX.—Wm. R., *æt.* two years. M. 4, 33. Family history good. Mother had a severe fall five months before child was born. Never has had any children's diseases. Is moderately well nourished. Special senses perfect; dull, stupid, never says anything except "mamma." During last year has had frequent attacks, in which face grows at first scarlet, then purple, and finally white. Attacks last from two to three minutes, during which he works mouth and twists lips. There is entire loss of consciousness. Does not bite tongue or froth at mouth;

attacks occur in daytime; sleeps after them. Independently of these attacks during the day he has repeated spasms of the muscles at the back of the neck, and the head is drawn into complete extension. There is a constant spasm of the left thumb, which is drawn across the palm of the hand. Arms stiff. Legs tend to cross when he is held erect, but can be spread apart by force; great difficulty in flexing the legs when they are in spasm. Cannot stand alone, and has never walked more than two or three steps. Uses hands but little, holds objects in an awkward manner, and cannot feed himself. Still nurses, but takes other food. Slight nystagmus. Dribbles constantly. Sleeps well, but starts at sounds; is constipated.

Case X.—Morris C., *at. three years. M. 4, 122.* First child; labor lasted eleven hours; instrumental. Father thinks mother was frightened when half way through pregnancy. Child's body was black when born. He cried continuously for one week after birth. When he began to move, parents noticed his movements were awkward. Cannot sit up. Has no fits now; is said to have had them last fall. Appetite and sleep good; shows signs of intelligence. Eyes squint internally. February 15, 1888: Returns to-day. Is now eight years old. General health has been good; no convulsions; has not been able to sit up, nor walk; lays on stomach in cot-bed most of the time; cries very little, temper good; can scarcely talk, says a few words—*e.g.*, "home," "all right," "hello." Looks fairly bright and intelligent, understands what is said. Head not quite symmetrical; left parietal and left frontal eminences most marked. Biparietal diameter, five inches; occipito-frontal diameter, seven and one-quarter inches; circumference of head, nineteen and a half inches. Eyes bright, clear, slight convergent strabismus; pupils medium size, react to light, vision seems good. Makes irregular movements, of lower muscles of face; opens mouth, and utters unintelligible sounds. Has difficulty in supporting head, which wobbles from side to side. Does not appear to be distinct spasm of these muscles. Back much turned to right. No wasting; body is thin. Hands are held closed, open them sometimes; thumb inverted, and fingers usually closed over it; is unable to grasp anything. There are constant, large, irregular movements of arms; distinct spasm in arm; very difficult to extend forearm. Right thigh constantly drawn up in semiflexed position; leg flexed on thigh; left leg extended, foot inverted, great stiffness; muscles of legs fully developed, but firm. Knee-jerk +; no ankle clonus. Teeth good, getting second set.

Case XI.—Thos. McG., *at. four years. M. 5, 195.* One of three children. No phthisis in family. Born naturally, and seemed healthy. Measles at three months, followed by hydrocephalus; head continued to increase in size till one year old; circumference twenty-three and a half inches. Dentition normal. Talked at an early age and seemed quite bright. Never walked, but can kick legs; legs spastic on standing, toes extended, muscles tight, feet crossed, legs relaxed when at rest. Knee-jerk + +. Hands shake and arms are stiff.

Case XII.—Elsie J., *at. one and a third years. M. 5, 216.* Roxborough, Youngest of two children, the others perfectly well. Labor natural and not difficult. Never had convulsions; no definite onset. Head microcephalic, measures seventeen and a quarter inches in circum-

ference; furrow in temporal region; sutures closed for some time; transverse diameter above ears four and a half inches; occipito-frontal, six inches. Dentition retarded. Has upper incisors and lower central. Seems bright and notices objects. No nystagmus. Fairly well nourished. Arms stiff at elbows and shoulders; knee-jerk +. Legs were noticed to be stiff soon after birth; not well developed; never walked; on standing rests on toes (Fig. 1);

FIG. 1.



Position of child when supported.

knife-clasp rigidity; strong adduction; sometimes crosses legs; some eversion of feet; attempts to walk; seems to have more power on left side. January 31, 1887: Supposed to have had spasms about a year ago; was three years old last December. Arms and legs remain stiff. Child has not developed mentally.

Case XIII.—Willie L., *at. six years.* One child still-born; one, aged two weeks, died of marasmus. Born with instruments; had fits as soon as born, lasting for three days; moved arms and legs, but not so well as other children; never able to sit up till one year old; began to talk at two years; sat up and held up head at eighteen months; right hand contracted till second year; dragged the right hand in creeping; stood at three and a half years; cannot stand now without support. Intellect bright; speech affected, has difficulty in pronouncing words. Fits again two years ago, after improper food. Healthy but small. Back straight; walks on toes; legs small below knees; skin and tissues adherent; contraction of tendo Achillis, which can easily be overcome. Legs cold; in walking toes of left foot turn in; left hand rather the larger; both arms stiff.

Case XIV.—Fred. H., *at. three years. M. 7, 58.* Parents healthy, five other children, all well. Looks bright; understands everything. Born at seven months; no instruments; nursed by mother. Has never sat up, crawled or walked; is now just beginning to say a few words. Restless and irritable; constantly throws himself backward. Hands and arms contracted and stiff, and in

constant motion; makes an offer to take things, but can scarcely take anything to his mouth as the arms are so stiff, left more than right; feet are at times everted (*i. e.*, valgus), then the toes are flexed and extended. Knee-jerk difficult to obtain; no ankle clonus; spasm gets less when once overcome by motion; teeth good; no nystagmus. Biparietal, four and three-quarters inches; occipito-frontal, seven inches; occipital region very prominent; circumference nineteen and a quarter inches. He has been sick lately with fever; is now very pale; at times gets very stiff arms and legs; hands and fingers extend and get rigid; uses left hand most; can scarcely grasp an object. Has had two slight convulsions, limited almost entirely to face and mouth, first last fall (1886), second in March, 1887.

Case XV.—Ralph W., *æt.* three years and six months. In Pennsylvania Institute for Feeble-minded Children. Idiot; no history; unable to walk or talk. Head microcephalic, circumference sixteen and a half inches, with the hair; no nystagmus; does not dribble; teeth good; arms rigid, and become more so on the slightest touch; irregular movements in fingers, but how much voluntary and how much involuntary, it is difficult to say; legs in extreme spasm, slight equino-varus position; the feet can scarcely be moved, so firm is the extensor spasm; the whole pelvis moves on attempting to flex the thighs.

A class of cases belonging to this division of bilateral hemiplegia is characterized by *spasm and disordered movement*. They are described in literature as *chorea spastica and double athetosis*. The cases I refer to are simply spastic diplegias, plus post-hemiplegic disorders of movement. The history is the same as in ordinary cases; the trouble has persisted from birth or shortly after, and there is a condition of feeble-mindedness or idiocy, though in some instances the intelligence is fair. Very often, too, there has been a difficult labor.

Of the chorea spastica, the following are probably illustrations:

Case XVI.—Mary M., *æt.* four years. M. 4, 429. Breech presentation, delay at the head, was six hours before she was resuscitated. Began to talk at two years; never walked; almost from birth she has had peculiar movements of hands and arms; the thumbs are turned in and there is constant irregular motion of the arms and hands, with stiffness, which is made worse when she attempts to control it; it is like a chorea. There is also some incoördination of the head. She is well nourished; no wasting. Coördination of legs good; but she does not walk.

Case XVII.—Nellie P., *æt.* nine years. I. P. b., 55. Parents healthy, five children dead, of seven. Seven years ago had fits while teething, had fits constantly for twenty-one days; for nine months had seven to nine per diem; in very weak health when fits ceased. *Present state:* Speech hesitating; memory not affected; unable to stand, sit, feed herself or assist herself in any way; can move every muscle in the body, but with an irregular movement which prevents her using any group of muscles; the movement is choreoid; in attempting to grasp an object the fingers are thrown out in a stiff, spastic and irregular manner, and she is unable to close them over the object.

I do not mean to infer that all cases of so-called congenital chorea come under this designation; there are instances without spastic rigidity, as the case reported

by Dr. Sinkler from this hospital.¹ Certain of these cases of congenital chorea have also had definite athetoid movements.²

There are several reports of children in the Infirmary records with the diagnosis of multiple sclerosis, which in many respects resemble these cases, and it would doubtless often be difficult to make a differential diagnosis.

Bilateral athetosis is not very uncommon; an illustration may be found in almost every almhouse or home for incurables. It is one of the most distressing of all maladies to witness, and is usually associated with imbecility.

The following cases illustrate the combination of spasm with disordered movement characteristic of this condition.

Case XVIII.—William B., *æt.* thirty. In the Elwyn Institution for eight and a half years. History: Had jaundice when eleven days old, after which the paralysis occurred. *Status præsens:* Intelligent looking; head well formed. Does not speak, but utters a loud, deep-toned sound when he is pleased. Sits up, but in a sloping position. Cannot stand. Continual grimaces, caused by irregular movements of the lower face muscles. Head is turned forcibly from side to side and the mouth drawn and hideously distorted. Arms very stiff, not wasted; are quiet at times, but every few minutes the most irregular movements; the arms and forearms stiffen in extension, the hand flexed, and the fingers in rapid, continuous spasm. At times is quite quiet and can even feed himself. Sits usually with his wrists strongly flexed on the bench, as if helping to support himself. The motions of the fingers are typically athetoid; those of one hand will be flexed on the palm while the others are in active extension. As he feeds himself the spasm is very great, and it is with much effort that the mouth and hand can be made to meet. The index finger may be strongly flexed while the middle is in extreme extension. The legs are stiff, strongly adducted. The feet are in extension in equino-varus position. The knee-jerk is obtained with difficulty. He is good-tempered and smiles; knows the attendants and makes signs as to his wants.

Case XIX.—Laura C., *æt.* twenty-one. The fifth child. A hard labor, but no instruments used. When born there was "no sign of life in her," and for an hour she was blue. The mother is a large, well-built woman; the family history is excellent. At six months the child had whooping-cough; seemed weak before this, but after the attack grew much worse; could not sit up and could not help herself like other children. From infancy she has had irregular movements of the arms and legs, with stiffness. Learned to talk late; is intelligent and good-tempered. She was brought to the infirmary when eleven years old. When seen recently at home she presented the following condition: a medium-sized girl, pale, but with an intelligent face. Sits in a chair supported by cushions. She answers questions in an interrupted, somewhat high-pitched voice, a little difficult to understand at first. Mentally is quite bright; appreciates her condition, and said she was a "little Job." Likes to be read to and to play with the children. She has never walked, and is quite helpless on account

¹ System of Medicine; edited by Pepper. Vol. v., Phila., 1886.

² Rau: Neurologisches Centralblatt, 1887.

of the extraordinary rigidity and irregular movements of the extremities, which are excited by emotion or by any attempts at voluntary efforts. The facial muscles move spasmodically as she speaks. When pleased she laughs in a loud, rough manner, with the mouth widely opened, the jaw strongly depressed, so that the uvula and palate are freely exposed. The arms are well nourished and are held in strong extensor spasm; the left is rotated inward and rigid; the forearm is so strongly extended that there is almost an anterior dislocation of the elbow-joint. At the same time there is extreme rotation of the radius and the hand, the fingers of which are clinched so tightly that it is impossible to separate them. The right arm is less strongly contracted, and with it she can make attempts to grasp objects. The spasm relaxes every few moments and the limbs assume new attitudes. The fingers relax and close, but without that continuous, orderly spasm seen in typical athetosis. The shoulder and trunk muscles are also affected, and their irregular contraction moves the trunk about from side to side. The legs are strongly extended, the feet in the equino-varus position. There is not much movement, but on testing the reflexes there were sudden spastic jerks, and at times the knees are drawn up. The muscles in spasm have an iron-like rigidity, and it is almost impossible to bend the limbs. When not excited she is much quieter and the muscles relax; but the slightest exertion brings on the spasms. She can sometimes, with the left hand, pick up objects and even carry a biscuit to her mouth, but she is quite unable to feed or help herself. The arm and leg reflexes are increased; the ankle clonus is readily obtained. Sensation perfect; the most extreme spasm gives no pain. There are no trophic changes. Her appetite is good and she sleeps well, the contractions disappearing completely. The bodily functions are well performed.

Some of these cases were able to walk, and in all the hands were used awkwardly, or not at all. The legs are most affected, usually extended, the feet crossed and in the pes equinus or equino-varus position. The thighs are often strongly adducted—the so-called clasp-knife rigidity. When the child sits the legs cross, and, if supported, there is the characteristic attitude of infantile spastic paraparesis, the feet crossed and the body supported on the toes. In Case X. the right thigh was drawn up; sometimes the legs are partially flexed, but, as a rule, the extension position is maintained. The stiffness is in some cases constant, while in others it varies greatly and is increased when the child cries, or in attempts to move. It may be more marked on one side than on the other. The whole body may at times become rigid, and, as Little remarks, is turned "all of a piece" on the lap. The arms are usually flexed, and the stiffness is at once apparent on attempting to extend them. It may be difficult or impossible to raise the arms or to abduct them. The hands may be clenched and the fingers strongly flexed, but it is rare to see the extreme spasm which is so common in hemiplegia; and, as the reports indicate, a majority of the children could use the hands, though awkwardly; while in Case III. the movements were almost natural. There may be, as in Case X., large, irregular movements of the hands.

Spasm of the muscles of the face or tongue was rarely noted. In Case X. there were irregular movements of the facial muscles; and a condition of rigidity was at

times present in the facial muscles. The spasm is not always fully relaxed during sleep, but disappears when the patient is fully etherized. The back and neck muscles are weak, and the child is rarely able to sit up alone. The spine in some cases seems to have remarkable flexibility, and mothers have used more than once the expression that the child was as "limp as a rag." So helpless, indeed, is the condition of many cases that unless in bed they must be in the lap. The feeble neck muscles are unable to support the head, which rolls from side to side or sinks on to the chest. The muscles were firm and hard, not often marked wasting.

In no case was sensation impaired.

The reflexes were increased in all these cases, particularly the knee-jerk. The ankle clonus cannot, as a rule, be obtained.

The electrical conditions in the cases tested were unchanged.

With the exception of Case III., the children were either idiots, without a glimmer of intelligence, or imbeciles. The facial expression usually indicated the mental deficiency. The open mouth, constantly dribbling saliva and lolling tongue were present in the majority of the cases. Only two of the children could speak plainly, thirteen could not talk at all and four could say only a few simple words. With the exception of two or three cases, they all seemed to be able to understand, more or less, when spoken to by their mothers. Irritability of temper was complained of very much.

Microcephalus is a very common condition with asymmetry, and in several of the cases the head was very broad above and behind the ears.

In two cases nystagmus existed, and in three strabismus.

As is so common in imbecile children, the teeth were defective, a condition to which Dr. Alice Sollier has recently devoted a special monograph.¹

Only two children had epilepsy, Case IX., subject to attacks of *petit mal*, and Case XIII., which had two spasms in which the face twitched, and the child seemed to lose consciousness. Cases I. and IV. had had convulsions after birth, and Case X. had fits at two years of age.

Of these nineteen cases the youngest at the time of application was one year and the oldest ten. Six were first children; three were born at seven months; in three cases the labor was prolonged, in two of which forceps were applied; one was a breech case. In eight cases the labor is stated to have been natural.

In ten of the cases the condition was probably congenital, as there was no definite onset, and the stiffness was noted early. In Case I. there were convulsions on the tenth day, and the child was unconscious for three days. In Case VI. the head was much flattened by the forceps, and the child could not be roused for half an hour. In Case X., also, the child was delivered with forceps, was asphyxiated when born, and cried for a week. In Case XI. the child had measles at three months, which was followed by hydrocephalus and the gradual development of a spastic condition.

I have been able to collect the reports of sixteen autopsies in cases of bilateral spastic hemiplegia in children;

¹ De l'état de la Dentition chez les Enfants Idiots et Arriéres. Paris, 1887.

the youngest was two years old, the oldest thirty. The anatomical condition in these cases was as follows: Case I. F., æt. five years (Kundrat¹). Bilateral porencephalus, motor regions. Case II. (Henoch²) M., æt. six. Atrophy, frontal convolutions. Case III. (Heubner³) æt. two and one-half. Atrophy of left central and right parietal convolutions. Case IV. (Ross⁴) F., æt. two and one-half. Bilateral porencephalus. Case V. (McNutt⁵), F., æt. two and one-half. Bilateral atrophy, central convolutions. Case VI. (Richardiere⁶) F., æt. two and one-half. Sclerosis of temporo-occipital and parietal gyri on both sides. Case VII. (Isambert and Robin⁷), æt. two. General cortical sclerosis of both hemispheres. Case VIII. (Bourneville⁸), æt. ten. Extreme sclerotic atrophy in both hemispheres. Case IX. (Bourneville⁸), æt. nine. Bilateral atrophy of convolutions, particularly the central gyri. Case X. (Blanchez⁹) F., æt. five. Atrophy of posterior lobes of both hemispheres. Case XI. (Simon¹⁰), æt. two and one-half. Sclerosis of central convolutions. Case XII. (Bourneville⁸), æt. five and one-half. Foci of sclerosis in frontal and temporal lobes. Case XIII. (Ashby¹¹), æt. twenty-two months. General atrophy; surface of hemispheres smooth. Case XIV. (Moore¹²), æt. five. General cortical sclerosis. Case XV. (Gee¹³) F., æt. eleven. General cortical sclerosis. Case XVI. (Mierzejewsky¹⁴), æt. thirty. Double porencephalus.

A more detailed account of Dr. Sarah J. McNutt's case will illustrate the condition which exists in the majority of these patients. The child, two and one-half years old, had been delivered with instruments and had convulsions during the first nine days of its life, and for a long time did not seem to have any muscular power. When first observed there was paresis with rigidity of all the extremities, and the child was defective mentally. Death occurred from gastro-intestinal catarrh. The brain was studied by Dr. William H. Welch, who has given a very full description of the coarse and microscopic appearances. There was atrophy in each hemisphere of the paracentral lobule, of the central convolutions and of the roots of the three frontal convolutions. Microscopically the cortex of the affected convolutions was replaced by a finely fibrillated tissue, rich in nuclei and without ganglion cells and nerve fibres. There was typical bilateral secondary degeneration of the pyramidal tracts in the pons and medulla and cord. In the pons most of the bundles of the longitudinal fibres were degenerated, in the medulla the sclerosis was confined to the

anterior pyramids, and in the cord the degeneration involved the direct and pyramidal fasciculi on both sides. The ganglion cells of the anterior horns were normal in number, size and general appearance.

Destruction of the motor centres of the cortex is, then, the essential lesion in bilateral spastic hemiplegia. Diffuse atrophic sclerosis is the most common condition; a patchy sclerosis has been found in some cases; porencephalia in others, while in Ashby's case there appears to have been arrest of development, as the surface of the hemispheres was smooth and sclerotic. Descending degeneration has been found in the pyramidal tracts in the cases of McNutt, Jules Simon and Ashby. In the majority of the cases there was no report as to the condition of the cord. In Ross's case the cord did not show any changes.

Voisin¹, in 1884, communicated to the Paris Academy of Medicine a note on the morbid anatomy of five cases of this kind. No details were given, merely the statement that the condition was caused by arrest of development and atrophy of the central gyri. I have not been able to find a full report of his paper.

ORIGINAL ARTICLES.

A CASE OF POTT'S DISEASE, PRESENTING IN THE ARMS SYMPTOMS RESEMBLING THOSE OF LOCOMOTOR ATAXIA, AND IN THE LEGS THOSE OF SPINAL SPASMODIC PARALYSIS.

BY HENRY HUN, M.D.,

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IN THE MEDICAL NEWS of April 21, 1888, Dr. S. Weir Mitchell published a very interesting account of a case of "locomotor ataxia confined to the arms." The following case bears some resemblance to that of Dr. Mitchell's, but in many respects it differs from it and from any case which I have been able to find reported.

P. Z., aged thirty-four, single, a cooper by trade, entered St. Peter's Hospital, December 9, 1887. He had always enjoyed good health till twelve years ago, when he had a fever, from which he made a good recovery, and continued well till two years ago, when he was obliged to give up work on account of a severe pain in his back between the shoulders. During the past two years he has gradually grown weaker, but was able to walk without assistance till two months ago, since which time he has felt as though there was a tight band about the abdomen, and has been unable to walk without the aid of a chair. He has been much troubled by pains in his arms, he sometimes sees double, and when he walks he is dizzy. He is constipated, and micturition is a little sluggish at times. No venereal history.

Patient is a well-nourished man. He sits with his head bent forward, and raises it with difficulty. Pupils are dilated and equal. No paralysis or abnormality in the domain of any cranial nerve. There is a fair amount of strength, moderate anaesthesia

¹ Kundrat: Die Porencephalie, 1882.

² Henoch: Lectures on Diseases of Children. American edition, 1882.

³ Heubner: Berliner klinische Wochenschrift, 1882.

⁴ Ross: Brain, vol. v.

⁵ McNutt: American Journal of Medical Sciences, 1885, i.

⁶ Richardiere: Etude sur les Scleroses encephaliques primitives de l'enfance. Paris, 1885.

⁷ Isambert and Robin: Quoted by Wuillamier. Sur l'épilepsie dans l'hemiplegie infantile. Paris, 1882.

⁸ Bourneville: Quoted by Wuillamier.

⁹ Blanchez: Quoted by Wuillamier.

¹⁰ Simon: Revue mensuelle des maladies de l'enfance. Tomes, i. and ii.

¹¹ Ashby: British Medical Journal, 1886, i.

¹² Moore: St. Bartholomew's Hospital Reports, xv.

¹³ Gee: St. Bartholomew's Hospital Reports, xvi.

¹⁴ Mierzejewsky: Archives de Neurologie, tome i.

¹ Bulletin de l'Academie de Médecine, 1884.

and analgesia, and very decided ataxia and loss of muscular sense of arms and hands. No anaesthesia of legs and feet. Muscles of legs weak. He cannot walk without assistance. Very slight, if any, ataxia of legs. Knee-jerk and ankle-clonus greatly exaggerated; so that a slight tap on the ball of one foot causes both legs to tremble and shake violently for a long time, presenting a beautiful example of the so-called "spinal epilepsy." Plantar and cremasteric reflexes increased, umbilical reflexes faint. No atrophy of the muscles of either arms or legs. The spinous processes of the second, third and fourth dorsal vertebrae are decidedly prominent, and that of the fourth is tender. Dr. S. R. Morrow, the attending surgeon of the hospital, having examined the spinal deformity, pronounced it an undoubted case of Pott's disease.

Jan. 19. Patient is rather worse. The cranial nerves continue to be unaffected. There is a fair amount of strength, complete anaesthesia and almost complete analgesia and a great degree of ataxia of arms and hands. When the patient is asked to touch his nose while his eyes are shut, he is quite as likely to touch his ear or his shoulder. Absolute loss of muscular sense; so that when his eyes are shut, the patient is in complete ignorance of what position his arms are in. Slight anaesthesia of upper half of thorax. A patch of indolent congested and excoriated tissue, resembling a bedsore, is on the top of the right shoulder. Movements of the legs are weak and very slightly ataxic. A slight degree of anaesthesia of legs. There is no decided loss of muscular sense, inasmuch as the patient can always tell the position of his legs when his eyes are shut; but he cannot tell when his toes are moved passively. Knee-jerk and ankle-clonus are greatly exaggerated. Umbilical reflex faint, cremasteric reflex normal, and plantar reflex absent. No muscular atrophy in arms or legs.

Feb. 29. The condition of the patient has not materially changed during the past month, except that the tendon reflexes in the legs are not as exaggerated as they were, and he no longer presents the beautiful example of "spinal epilepsy" that he did. The spinal curvature has continued unchanged. In regard to treatment the patient has been kept on his back in bed. During the first month, he took nitrate of silver grs. ij, t. i. d., and during the second month, iodide of potassium grs. xv, t. i. d. Dry cups and hot water were applied to the back, and the galvanic current to the arms and legs. He has had several slight haemoptyses, and, on examination, the left clavicle is found to be prominent, and there are dulness and broncho-vesicular respiratory murmur with an occasional moist râle after cough at the left apex. He became dissatisfied and left the hospital to-day, and soon afterward went to Cleveland, Ohio.

Early in May, Dr. Henry S. Upson, of Cleveland, Ohio, sent me the results of an examination which he very kindly made of this patient at my request. He found in both legs muscular weakness without atrophy, normal cutaneous reflexes, greatly exaggerated tendon reflexes, and preservation of tactile, painful and muscular sensibility; in both arms

ataxia, anaesthesia, analgesia, loss of muscular sensibility, slight atrophy of the dorsal interossei, supraspinatus and trapezius muscles on the right side, fibrillary contraction of the left supraspinatus muscle and of the muscles in both arms; the muscles of the forearm responded to mechanical excitation, and there were exaggerated tendon reflexes at both elbows and wrists. All the muscles responded to both the faradic and galvanic current, except some of the deep muscles on the right side of the neck, which did not respond to either kind of current. Pupils reacted both to light and to accommodation, and an ophthalmoscopic examination revealed nothing abnormal.

When this patient entered the hospital, he presented the very remarkable clinical picture of locomotor ataxia in the arms, and of spinal spasmotic paralysis in the legs. The angular curvature of the spine, the haemoptyses and the physical signs of pulmonary tuberculosis, taken in connection with the paraplegia, gave pretty conclusive evidence that a tubercular disease of the vertebrae was present, the products of which had given rise to a compression of the spinal cord (or to a compression myelitis) in the upper dorsal region. It is evident that the symptoms in the legs were all easily explicable by the compression. As is common in such cases, there was little or no disturbance of sensibility; the compression affecting more especially the anterior part of the cord and not involving the sensory fibres of the legs in the columns of Goll. It is possible that a descending degeneration of the crossed pyramidal tract (which at the autopsy of such cases of compression of the spinal cord is usually found running throughout the whole length of the cord below the compressed portion and even for a short distance above it) may have helped to cause not only the muscular weakness but especially the greatly exaggerated tendon reflexes. Later in the course of the disease, and while the patient was under observation in the hospital, the columns of Goll became slightly involved, giving rise to the symptoms of impaired sensibility in the legs, which, although slight, were quite evident on January 19th.

The compression was evidently situated at the spinal deformity, which was just below the cervical enlargement, but the symptoms in the arms could scarcely be due to a simple direct extension of the softening or the inflammation upward, for in that case the anterior parts of the cord would have been affected as much as, or even more than the posterior (since they were more involved at the point of compression), and would have produced muscular paralysis and atrophy of the muscles of the arms. A possible explanation of the fact that the posterior rather than the anterior horns were involved may be that the fibres of those sensory nerve roots in the posterior horns and in the columns of Burdach,

which were involved in the compression, had degenerated above this point, and that this ascending degeneration (which is usually found at the autopsy of cases of compression of the spinal cord) and consequent sclerosis had extended by contiguity to neighboring fibres and had caused a sclerosis of the posterior horns and columns of Burdach in the cervical enlargement, which gave rise to the symptoms resembling those of locomotor ataxia in the arms. It seems in this case as if the posterior horns were much more involved by the disease than the columns of Burdach, for the anaesthesia and analgesia were more complete and widespread than is usually the case in locomotor ataxia, and Dr. Upson found when the patient was in Cleveland that the tendon reflexes were not only not absent, but were exaggerated.

In regard to the knee-jerk, Westphal¹ has shown that in cases of locomotor ataxia its absence depends upon a lesion of the lateral portion of the columns of Burdach, which he calls the "zone where the roots enter" (Wurzeleintrittszzone), at the junction of the dorsal and lumbar regions of the cord. He gives figures of the lesions in five cases of locomotor ataxia, in which the knee-jerk was preserved either throughout the disease or until very late in its course, and in which this zone was either entirely free from disease or had only just commenced to be involved by it. Probably the tendon reflexes in the arms depend on the integrity of a similar zone in the columns of Burdach in the cervical region of the cord, and the existence of these reflexes in this case proves that this zone is not diseased.

When Dr. Upson saw the case, the symptoms in the arms and neck indicated that the anterior horns were also being slowly encroached upon by the disease, but the signs of disease of the anterior horns, even at that late date, were very slight in comparison to those of the posterior horns; and it seems as if the extension upward of the inflammation in the posterior rather than in the anterior part of the cord might have been determined or brought about by the ascending degeneration which usually occurs in cases of compression of the spinal cord. It is not probable that this sclerosis would extend by contiguity for any great distance in the posterior horns and in the columns of Burdach, so that a compression of the spinal cord must be seated immediately below the cervical enlargement to produce the symptoms which it apparently produced in this case. It is certainly a case in which the diagnosis needs to be confirmed by an autopsy, but inasmuch as I shall, in all probability, never see the autopsy, even if one should be held, I publish the clinical history of this, to me at least, very uncommon case.

TWO CASES OF THE RADICAL CURE OF HERNIA.¹

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G. B., male, farmer, aged forty-one, was admitted to the wards of the German Hospital on the evening of March 27, 1888, with the following history: For ten or fifteen years he had had a large swelling occupying the right half of the scrotum and extending upward to the neighborhood of the internal abdominal ring. During all this time this swelling had never entirely disappeared, although it varied in size and consistency. He had suffered no great inconvenience from it, except that due to its bulk, until about thirty-six hours previous to his admission, at which time it had suddenly become painful, much increased in tension, and a groove or furrow had developed midway between the base of the swelling and its origin above Poupart's ligament. The whole scrotal tumor was very tense, and nothing beneath the skin could be distinctly felt on palpation, though the lower portion gave the impression of containing fluid. There was a certain amount of resonance on percussion from the middle to the upper part of the swelling, the lower third being dull. In addition to the local symptoms, the man at the time of his admission into the hospital had persistent retching and vomiting, which had then lasted for twenty-four hours; the matters ejected were fluid, sour, offensive, but not distinctly feculent. A diagnosis of complete oblique inguinal hernia, strangulated in the sac, was made, and herniotomy was proceeded with.

A long incision was made beginning an inch above the situation of the internal ring and extending obliquely to the base of the tumor. The usual layers of tissue were divided until the sac was reached and opened. A constriction was found, as had been expected, at the point where the transverse groove was situated, which was due to bands of infiltrated lymph binding the inner surface of the sac to the closely adherent intestine. It was with great difficulty that the extreme tip of the finger-nail could be inserted at this point to serve as a guide for the probe-pointed bistoury, which was made to follow the finger and finally to divide a portion of these bands. Finding the constriction remaining, it became necessary to dissect down carefully from the outside, with light touches of the bistoury, until the lymph bands were completely divided; after this the separation of the bowel from the interior of the sac became comparatively easy, and was accomplished by the fingers without the aid of other instruments. At the level of both rings the intestine was found entirely free. As soon as the knuckle of gut below the constriction was drawn into view it was followed by an extensive gush of fluid, slightly blood-stained, and resembling that seen in hydrocele. The finger, following the sac to its base, easily recognized a rounded glandular mass about the size of a walnut, which was at first thought to be an atrophied testicle, this view being apparently supported by the existence of a fleshy cord in the sac extending its full

¹ Archiv. f. Psychiatrie, Bd. 17, S. 547.

¹ Read before the Pennsylvania State Medical Society, June 6, 1888.

length, emerging from the upper ring and running to the gland mentioned, and containing a hard wire-like body which was then thought to be the vas deferens, and certainly was absolutely indistinguishable from that duct by the sense of touch.

At this juncture it was very natural to suppose that the hernia was of the congenital variety, the sac of the hernia and the tunica vaginalis being continuous. The existence of the supposed cord and the large quantity of fluid, together with the history of the case, all favored this view. A little later, however, all tension being then removed and the scrotal tissues easily subjected to palpation, both testicles were found to be *in situ*, the one on the affected side being below and behind the region exposed by the operation. Closer inspection then revealed the fact that the supposed testicle was an enlarged, indurated mesenteric gland communicating with a lymphatic vessel, also greatly enlarged and indurated by long-continued inflammation, giving it its wire-like feel; the fleshy tissue, thought to be the cord, proved to be a mass of omentum, which during its many years of irreducibility had become rounded and agglutinated so that it had lost all its special characteristics. This was ligated high up and removed, together with the enlarged gland. During this portion of the operation the constricted knuckles of gut, which when first brought into view had been black, crepitant and distinctly offensive in odor, had rested on the upper portion of the thigh of the patient, covered with hot carbolized towels, and had gradually recovered their normal color and consistence to such a degree that I resolved to return them to the abdomen. After doing this the upper portion of the sac and its neck were with considerable difficulty separated from the surrounding structures, careful dissection with the scalpel and the finger being required. The sac was then drawn strongly downward from the internal ring, and was tied with a stout silk ligature half an inch above the upper line of the incision which had been made into it. The ends of this were left long and threaded through stout curved needles. One of the threads was then carried up the canal, through one of the walls of the internal ring, and through the abdominal wall above and external to the internal ring, and the other carried through the opposite edge of the internal ring and through the abdominal wall, the skin being pulled aside in both cases, so that the sutures passed only through the fascial and muscular layers. These threads were then brought together and tightly knotted, thus fixing the stump of the sac in the internal ring, and at the same time almost completely closing the latter. The operation up to this point was practically that recommended by Mr. Barker, of University College, London.

Attention being then directed to the fundus of the sac, which remained *in situ*, it was found greatly thickened and tightly adherent to every portion of the surrounding tissues. The patient's condition not being good and there being no special advantage, as it appeared to me, in the removal of the fundus, this was left undisturbed. The tissues on either side were then stitched together by catgut sutures, ex-

cluding the skin. The wound then presented through its upper two-thirds two broad fleshy walls which seemed admirably adapted for rapid union.

Up to this point I had thought of concluding the operation after the method of Dr. Charles McBurney, of New York, leaving the wound open after sewing together on each side the various layers forming the abdominal wall, excluding, of course, the transversalis fascia and the peritoneum, and then packing it with iodoform gauze; but, as I have stated, the prospect of obtaining rapid union through the upper two-thirds then appeared to me so good that I brought all that portion together by closely applied interrupted catgut stitches, having first laid in the depths of the wound some strands of chromicized catgut to provide for drainage. The lower third, communicating with the remains of the fundus of the sac, was left open, and was filled with long strips of iodoform gauze.

Full antiseptic measures were employed throughout the entire operation, which was then completed by the application of antiseptic dressings, consisting of wet sublimate gauze, sublimate cotton and an antiseptic spica bandage. The patient recovered without a bad symptom. He was extremely restless at first, and a few drops of pus formed and discharged at the upper angle of the wound, which everywhere else united by first intention throughout its entire extent. The cavity at the bottom of the sac rapidly disappeared through contraction of the dartos and the scrotal tissues and obliteration of the sac by granulation. The patient had several large movements of the bowels within the first three days, and has never since had the least abdominal distention, swelling or tenderness. The temperature and pulse have been normal since forty-eight hours after the operation.

The patient is now, ten weeks after the operation, up and about, with a solid linear cicatrix, wearing no truss or other support, the use of which after operations for the radical cure of hernia I believe to be unphilosophical. With the exception of the scar, there is but a trifling difference between the two sides of his abdomen in the region of the hernia; and although it is too early to add the case to the list of successful operations, there is, as yet, certainly no return of the hernia. There is, however, a spot above the middle of Poupart's ligament at which the abdominal walls seem thinned and weak, and it may be that a hernial protrusion will make its appearance after he resumes his work.

It is, as yet, uncertain whether the statement of Leisink, that the radical operation is less apt to be followed by relapses in cases of strangulated hernia than when done in other cases not complicated by strangulation, can be accepted as proven.

Weir's statistics, on the contrary, show that in operations on free or non-strangulated hernias relapses occur in 47 per cent., while in 138 cases of strangulated hernia operated on by Andaregg, MacEwen and Reichel, 49 per cent. relapsed. The interesting question, therefore, whether strangulation,

or the inflammation and thickening of the sac which accompanies it, increases, as may be possible, the chances of rapid and thorough adhesion of the structures about the inguinal canal, and should, therefore, increase correspondingly the probability of securing a permanent result, must be regarded as yet undecided. Setting aside the factor of strangulation, the present case can hardly be considered a favorable one. The extensive adhesions, the age of the patient, the size of the tumor, the great distention of the abdominal rings, the involvement of the omentum, the doubtful condition of the gut and the extensive secreting surface which it was necessary to leave behind were distinctly unfavorable elements. The conclusion of the distinguished French surgeon, M. Socin, which was announced at the recent French Surgical Congress, and concurred in by all present, that "the chances are better in proportion to the youth of the patient, the smallness of the hernia and the shortness of duration," is that of all practical surgeons, and, as I have remarked, all these factors are absent in this case. Another opinion also expressed by him on the same occasion is at the present time as widely accepted, viz., that the operation for radical cure is the necessary complement of all kelotomies performed for strangulation, excepting only the cases in which the intestine cannot or should not be reduced.

In regard to the technique of the operation, the most important points to be noted are the treatment of the sac, the treatment of the rings and the edges of the canal and the employment or non-employment of pressure by truss or otherwise. Macewen's operation, in which the whole sac is retained, and after careful dissection folded upon itself by means of a ligature passed through it longitudinally, and is then stitched to the internal abdominal ring, has always seemed to me to have two objections: 1st, it requires a complete dissection of the entire sac, often a tedious procedure, and one which prolongs the operation at a period when it is desirable to complete it as soon as possible; 2d, although it is said to form a plug or buttress for the internal abdominal ring, it certainly leaves that portion or pouch of peritoneum more or less distinct, and to that extent favors a return of the hernia.

In the operation of excision of the sac, if strong traction be made at the time of applying the ligature, all trace of the hernial pouch of peritoneum may at once be obliterated, as may be readily demonstrated on the cadaver. A comparatively smooth surface is left with the minimum amount of cicatricial tissue. Macewen's plug consists largely of inflammatory lymph which unites the folds or layers of the sac, and finally becomes scar tissue, which always and everywhere throughout the body tends to break down and become absorbed under pressure. For these reasons I believe excision of the sac to be

preferable. Twisting of the sac, as recommended by Mr. Stokes, is open to the objections to which attention has been called by Dr. McBurney, that a portion of adherent intestine might be drawn into the twisted canal, or a rupture of the peritoneum might result. To counterbalance these dangers I see no advantage whatever to be derived from this plan over that of excision and ligature of the sac. As to the treatment of the rings and edges of the canal, I believe that the bringing together of the separate layers on either side of the canal, with the idea of securing the union of their edges, is less efficient than the plan which I have above described.

The broad, fresh surface which is thereby obtained offers a greater probability of rapid union by adhesive inflammation than when the thin layers of fascia and muscle are stitched separately. Then, too, if union should not be obtained by this plan, the wound is left in good condition for the employment of McBurney's method and can be readily packed with iodoform gauze at any period after the operation. As to the subsequent employment of the truss, the same principle which I have mentioned as offering an argument against Macewen's method—namely, the ready disappearance of cicatricial tissue under pressure—seems to me to constitute a valid objection. The whole operation may now be said to be on trial before the profession, and each case has a distinct value, and should be carefully recorded and considered.

In those hernias in which the vaginal process of the peritoneum remains patent and the hernia lies in contact with and surrounds a testicle, the problem of effecting a radical cure is manifestly complicated. The ordinary plans are inapplicable, as the sac of the hernia surrounding the cord and testicle can neither be folded up after Macewen's plan, nor ligated and excised. It is directed in these cases (Barker, *Operative Surgery*) to divide the sac in the middle and then close up the lower part by a few stitches, so that it may form a tunica vaginalis. The upper portion is then to be sealed up posteriorly, allowing the cord to escape behind it, after which it is closed up by stitching, and may then be treated by any of the ordinary methods. It has always appeared to me that this must necessarily leave a weak point in the neighborhood of the cord and that the effacement of the hernial pouch must be more or less incomplete.

For these reasons in a certain proportion of cases, especially those in which a congenital hernia is complicated with a retained testicle, it seems justifiable to sacrifice the latter organ, particularly, of course, if it be atrophied. The following case will illustrate this point:

C. B., a man, twenty years of age, was admitted to the German Hospital on the evening of May 5th,

suffering with strangulated, oblique, complete inguinal hernia of the right side. With the exception of the knuckle of gut which it contained, the scrotum on this side was empty, and it appeared that when the hernia was reduced the right testicle could be felt in the inguinal canal. It frequently gave him great pain and distress, and the hernia was very difficult to retain on account of the presence of the testicle, the truss exciting swelling and inflammation; for the same reason the attacks of strangulation had been frequent. On this occasion the pain was agonizing and unbearable, and both the patient and his family, who accompanied him, agreed that the prevention of other recurrences was worth any risk. Herniotomy being performed in the usual manner, the small, immature testicle was discovered lying in the inguinal canal near the external abdominal ring and held in place by bands of recent inflammatory lymph. The sac, *i. e.*, the tunica vaginalis, contained a large quantity of fluid and ten or fifteen inches of much congested intestine. The stricture, which was at the internal ring, was divided and the gut easily reduced. On account of the history which the patient had given, and for the reasons stated above, the cord was then ligated as high as possible, the stump returned to the abdomen, and the remaining portion, together with the testicle, removed. This allowed the upper portion of the sac to be pulled strongly down and ligated, after which the remainder was easily dissected out with the finger, as in cases of castration. Catgut drainage was used, the wound brought together after the method I have described above, the layers in each wall of the wound being first stitched to each other, and the whole wound approximated afterward. Union by first intention under one dressing followed, and the patient was left with a firm cicatrix, and at the present time, five weeks after the operation, without the slightest remains of the hernial tumor.

NOTE ON THE ACTION OF DIGESTIVE FLUIDS ON OIL.

BY H. W. WILEY, M.D.,
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IN a paper by Dr. D. W. Prentiss (THE MEDICAL News of May 12, 1888, p. 518), attention was called to the occurrence of so-called gall-stones in the dejecta after the exhibition of olive or cotton-seed oil, and the substance of a preliminary study which I had made of the compositions of these bodies was given. At Dr. Prentiss's request I have since collected additional data referring to this matter.

The action of the gastric juice on fat seems to be confined to separating therefrom all connective and enclosing tissue and thus setting the fat free. It is found in the stomach in large globules and passes the pylorus unchanged.

The pure intestinal juice seems to exert no action whatever on fats, and these substances are said by Busch to appear in the feces unchanged when subjected to the action of the intestinal excretions alone.

Flint says that, while the action of the pancreatic juice in emulsifying fat is undisputed, there is no evidence that in normal digestion there is ever any saponification. The fats found in the thoracic duct are always neutral, and do not contain any free fatty acid. On the other hand, Bernard has shown that the pancreatic juice outside of the body has a distinct power of saponifying fats. Landois and Stirling, however, recognize the saponifying power of the pancreatic juice in normal digestion, but attribute the result to a fat-splitting ferment called *steapsin*.

The process of emulsification is said to go on with much greater rapidity when the fat in question contains a trace of free acid. The surface of each fat globule becomes coated with a thin film of soap, which is soon detached, carrying with it minute particles of fat. The repetition of this process secures finally a complete emulsification. Both the soap and emulsion are absorbed. The authors state further that soluble fat soaps represent only a fraction of the fats which are absorbed, the greater part of the neutral fats being absorbed in the form of an emulsion. Absorbed soaps, however, have been found in the chyle.

Buchheim, in his *Lehrbuch der Arzneimittellehre*, third edition, p. 370, says: "The pancreatic juice also possesses the property of dividing fats into fine particles, at the same time that it effects, by reason of a ferment contained therein, a partial saponification of them."

Edes (*Therapeutics and Materia Medica*, p. 287) refers to the saponification of olive oil when administered in large doses, and the excretion of semi-solid masses of soap.

What relation the saponification of fat in the intestinal canal may have to its food value I cannot say. Recent experiments of Kellner (*Zeitschrift für Physiologische Chemie*, vol. xii. p. 113) show that as a food for a draught horse one part of fat is equivalent to 2.6 parts of starch. Six and a half ounces of linseed oil enabled a horse to perform 464,000 pounds more work in a day than without this food. Hoppe-Seyler (*Physiologische Chemie*, Part IV. p. 949) ascribes the power of fat food to increase the amount of work performed to its influence in diminishing the consumption of the nitrogenous tissues. Whatever the true view may be, it seems certain that we have not yet quite understood the exact processes of fat-digestion and assimilation.

Dastre, in a recent study of the action of the bile in fat digestion (*Comptes Rendus*, tome 106, p. 217), has shown that the pancreatic juice alone is not capable of digesting fats. These conclusions of Dastre have just been confirmed by the experiments of Prevost and Binet (*Comptes Rendus* of June 11, 1888, p. 1690). These investigators find that in dogs, when the bile is prevented from taking part in digestion, fat foods are voided unchanged.

By an artificial cholecysto-intestinal fistula in dogs, they caused the bile to be emptied into the intestinal canal at a point twenty-five to forty inches from the duodenum. Through all this distance the fatty matters passed, subject to the action of the pancreatic secretion alone. The dogs being killed during the progress of digestion, the chylefbers were examined. There was no trace of any absorption of the fat until after the mingling of the bile with the contents of the canal. Whence Dastre concludes that the presence of both bile and pancreatic fluid is necessary to the digestion of fats.

Dr. Prentiss, of this city, administered to a patient a large dose (a pint) of cotton-seed oil. In the dejecta were found large numbers of moderately hard ovoid bodies, which the patient thought were gall-stones. They were brought to Dr. Prentiss, who preserved them in a stoppered bottle and sent them to me for examination. On reaching me the whole had melted to a viscous mass resembling soft soap. On examination it proved to be a true soap, a mixture of soap and free fatty acids, easily soluble in alcohol, yielding fatty acids insoluble in water on treatment with an acid. After saturation with hydrochloric acid the chlorides of the alkalies were separated from the fatty acids by filtration, evaporated to dryness, ignited to low redness to drive off any ammonia and to destroy organic matter; the residual chlorides were dissolved in water, filtered through a small filter, evaporated nearly to dryness, dissolved in alcohol and treated with platinic chloride. A distinct precipitate of potassium-platinic chloride was formed, showing a trace of potassium. The chief part of the alkali, however, was soda, with, possibly, some calcium. This is an interesting case, showing the complete saponification or decomposition of a large quantity of oil by the pancreatic juice and bile, perhaps with the aid of a fat-splitting ferment, and the passage of the greater quantity of soap and acids thereby formed unab-sorbed through the alimentary canal.

Since the complete saponification of such an amount of oil would require more alkali than is normally found in the intestinal canal, it seems probable that the oil may be split up in the canal without complete saponification. I have, unfortunately, taken all the sample sent me for the first examination and therefore will not be able to decide this point until opportunity for another analysis is presented.

The occurrence of semi-solid masses in the feces has been noted by many writers, but they have usually been called gall-stones. The *Therapeutic Gazette* for May, 1888, reports a case of this kind, but evidently without believing it true. As has already been noted, Dr. Edes has properly named these excretions, but informs me that he does not know of any analysis of them having been made.

Mojon (*Revue Médicale*, 1844, quoted in Thudichum's *Treatise on Gall-stones*, p. 199) says, "concretions of solid fat occur in the feces after the use of sweet oil;" but in this he is evidently mistaken. Sweet oil could not produce a concretion of solid fat without undergoing a more profound change than saponification. These concretions were, doubtless, masses of soap, such as I have described above. Thudichum (*Treatise on Gall-stones*, p. 135) describes certain biliary calculi which were composed largely of calcium soaps. The hardness and crystalline structure of these stones, however, would prevent them from being confounded with the masses of soap and acids forming the subject of this study. In the feces of dogs, Hoppe-Seyler (*Physiologische Chemie*, p. 337) has found calcium soaps of stearin, palmitin and olein. The feces are exhausted with alcohol and ether, and the residue treated with hydrochloric acid and a mixture of alcohol and ether. Wegscheider (*op. cit.*) has found these calcium soaps, also, in the feces of healthy children who were nourished exclusively by mother's milk.

I desire to thank Drs. Prentiss, Edes and Lee for favors extended in the preparation of this note.

WASHINGTON, D. C., July 3, 1888

TWO CASES OF BASE-BALL PITCHER'S ARM.

BY A. H. P. LEUF, M.D.,
OF THE UNIVERSITY OF PENNSYLVANIA.

As a supplement to my paper on "Base-ball Pitcher's Arm" that appeared in THE MEDICAL News of July 15, 1887, I would offer the following cases of two noted pitchers treated by me in the middle of last season (1887).

CASE I.—Mr. W., male, single, about twenty-five years of age, average height and weight, and inclined to be thin. Had never worn any elastic bands on his pitching arm. Was never troubled with a bad arm until last year. He seriously intends to "lay off" for one month, because of a very sore arm. Has pain under the scapula (anterior border) and anterior fibres of the deltoid. There is marked atrophy of the teres minor. The deltoid seems not atrophied. Pitching the out-curve pains him. Has been steadily getting worse. Is taking another physician's medicine for indigestion and diarrhoea.

Treatment.—This consisted in regular morning and afternoon exercise, for an hour each time. He was instructed to surround the shoulder with towels wrung out of hot water, and applied as hot as could be borne, both after and between exercises, so as to make at least four applications a day. All shower and cold baths were interdicted. A warm bath was to be taken after each game. Galvanism was applied to the teres minor and anterior fibres of the deltoid, so as to redden the skin and cause marked contraction on interruption and reversal of the current. Reversal of the current caused but slightly more contraction than simple interruption.

Prognosis.—Keep up work, and pitch in game in

a few days, but continue treatment for four or six weeks at least. Recovery ought to be complete.

Second visit, three days later. No pain whatever during practice. Highly elated. Will pitch in a game on Monday or Tuesday. Continued treatment.

Third visit, four days later. Pitched yesterday. Arm felt "fine." "Not the slightest ache or pain." Says he could have pitched another full nine-inning game. Arm felt a little stiff and swollen this morning; after galvanism this entirely disappeared. Pitches again to-morrow. In yesterday's game he pitched against the C— team, with M— in the box; only seven actual hits were made off him, and he gave two men bases on balls; twelve actual hits were made off M—. To-day's paper says of the patient: "W— pitched a remarkable game." He won by a score of 3 to 2.

Next day he returned for galvanism, and felt so well that he did not think it necessary to call again. In a few days he left the city with his club, and while in the west, a few days later, he pitched, on two successive days, against one of the greatest ball clubs ever organized, and won both games on the opponent's grounds, a very remarkable feat of endurance and skill. He suffered no bad effects, and during the balance of the season his arm never troubled him again.

CASE II.—Mr. A., male, married, æt. twenty-nine years, tall, and of fine physique. Muscles of the right arm remarkably developed and very firm. Wears an elastic elbow-band, and has done so for a couple of seasons. Extension at the elbow is incomplete and due to slight contraction of the brachialis anticus and biceps, and osseous enlargement of the lower end of the humerus and upper ends of the radius and ulna. Was able to extend both arms equally well at first, but the pitching arm began not to admit of full extension. Was injured at Cleveland while pitching, so that he had to stop at once. Since then he has been under medical treatment, but was getting worse all the time. At the present time he cannot dress or undress unaided. Had to help him off with his coat. Can hardly bend elbow. Has it slightly flexed at an angle of about 150°. Has severe pain and considerable swelling on both sides of the olecranon and on either side of the triceps tendon just above, being most marked on the inner side. The out-curve is the most painful by far. Flexion at the elbow causes pain along the distribution of the ulnar nerve, which is very tender behind the internal condyle. There is no osseous tenderness. Says that sometimes he feels a snap at the site of the head of the radius, and that then he cannot flex his arm until it has been pulled and rotated. This seems as if it might be a subluxation of the head of the radius. Also pain in anterior fibres of the deltoid. Wants to know if he is disabled for life, and if not, if he can pitch again during this season. Estimated time for reasonable cure two weeks, or complete cure nearly two months.

Treatment.—No shower or cold bath. Warm baths after each game. Elbow dipped in hot water three or four times a day, as hot as can be endured, and kept up for about half an hour each time. Arm

not to be used until after next visit. Applied galvanism, + pole at nape of neck and — pole at sore spot of elbow. Current strong enough to redden skin and cause marked muscle contraction during interruption of current. Also applied — pole to the deltoid (anterior fibres). Both were then applied to the elbow, allowing the current to pass through the joint and surrounding structures from before backward. Felt comparatively little pain after the galvanism, even in efforts at pitching. To return in five days.

Second visit, five days later. Very much improved. Flexes and extends arm readily, and with little pain. Motion of moderately swift throwing or pitching gives very little inconvenience. Continued treatment and advised beginning to practise moderately every day, in the morning and afternoon, for about one hour each time.

Third visit, two days later. Still more improved. After first practice (in afternoon) arm was very painful, not having used it for about two weeks. After second practice (in morning of next day) it was not nearly so painful. After the third practice (the afternoon of the same day as the second) he had almost no pain. Had a little this noon (next day) in the vicinity of the olecranon, but was free from it after galvanism. Perhaps will pitch in a game day after to-morrow.

Fourth visit, one week later. Has pitched for about one hour, every morning and afternoon, since the last visit, and never had the slightest pain or inconvenience until to-day. While pitching this afternoon he suddenly had a slight pain at the tip of the olecranon in pitching the in-curve. Stopped at once. Applied thirty cells of the Barrett chloride of silver battery until the skin was red, and broke and reversed the current repeatedly. Showed him how to pitch an overhead in-curve and out-curve without straining his elbow and radio-ulnar joints. He cannot touch his right (pitching) shoulder with the tips of the fingers of the same side, though he could before he became a pitcher, and can do so on the other side. Pitched in a game next day without much trouble.

I have purposely run the risk of being tiresome in the recital of these cases by making almost verbatim copies from my histories. These two were selected because very bad, and one quite intractable. The first case was remarkable for its prompt response to treatment, and the permanency of the cure, for at no time during the season did his arm trouble him. Case II. was seen by me again several times during the season, and hardly any trouble remained, at least not enough to prevent first class pitching. I have seen him this winter (in February, 1888), and find his arm in better condition, as he tells me, than ever before.

These cases show the quick response of such injuries to good treatment, and the certainty with which they get worse under wrong treatment. It is not only necessary in such troubles to use galvanism properly and give good advice, but it is necessary

(as I did in Case II;) actually to see them pitch, and study their delivery so that advice may be given as to change of delivery, thus enabling them to rest the affected parts while they still remain on duty and draw pay. This is very important when we recollect that the "laying off" of a good pitcher for a couple of weeks means a loss to him of from \$50 to \$100, or even more.

129 SOUTH THIRTY-SIXTH STREET.

CHOREA OF PREGNANCY AND OF THE AGED.

BY C. L. DODGE, M.D.,
OF KINGSTON, N. Y.

A FORM of chorea occasionally occurs during pregnancy. It is extremely rare. Sinkler (Pepper's *System of Medicine*) gives sixty-six cases as the total number recorded to date. Inasmuch as chorea is a disease of childhood, the large majority of cases occurring between the ages of five and fifteen years, we should not expect to meet with it frequently in adults. The chorea of pregnancy is said to be a very serious and often fatal affection, and almost beyond the power of remedies to control.

CASE.—Mrs. T., twenty-three years of age. First saw her May 3, 1886; about eight months advanced in her third pregnancy; she was a large, healthy-looking woman, weighing one hundred and fifty pounds; no history of rheumatism; never had chorea when a child. About two months before, she first noticed symptoms of muscular weakness of the left arm and foot, soon followed by inability to control the movements of the left hand; this grew steadily worse, till she was finally obliged to fasten her arm to her side, to prevent injury to the hand, as she was utterly unable to control its movements. Mental condition good, but speech somewhat affected. The bromides, arsenic and iodide of iron were tried in vain, absolutely no improvement taking place. At eight and a half months, she was taken with convulsions. I continued the bromides; also gave morphia and chloroform, notwithstanding which they recurred at intervals for twenty-four four hours. They seemed to me to be epileptiform in character, so I did not at first resort to venesection; but the next day, after consultation, I decided to bleed her. After removing about twenty-four ounces of blood, we tied up her arm, and she appeared much better, was able to converse intelligibly and seemed perfectly rational. She had no more convulsions afterward; she would have peculiar nervous "spells," as her friends termed them, but no more fits. The chorea, however, remained fully as bad as ever. It persisted, for nearly three weeks after confinement, to such an extent that it was necessary to bind her arm to her side while she nursed the baby, for fear of injuring it. By the end of the month, she began to show signs of improvement, and, in less than two months from the time of her accouchement, she had entirely regained the use of her hand, and, to this time, has had no return of the trouble.

The family history here is interesting. Her mother has been subject to rheumatism all her life; she also had chorea during her pregnancy and with this child, which was her third pregnancy. The patient has an older sister who has epilepsy. She cannot recall any particular fright during her pregnancy, but says she was obliged to stay alone at nights a great deal, her husband being away from home, and she would get very nervous at such times and often lie awake most of the night.

Primiparae are said to be most frequently affected; indeed, the four cases recorded by Sinkler and referred to by Osler (THE MEDICAL NEWS, October 22, 1887) were all primiparae. The mental symptoms are frequently severe, and the mortality high, ranging, according to Osler, from twelve to thirty per cent. Out of sixty-six recorded cases, chorea occurred previously in fourteen. Rheumatism and fright seem to act as exciting causes in a number of cases (Sinkler).

The causation of the chorea of pregnancy, so far as known at present, according to Wood (*Nervous Diseases*), is summed up as follows:

"There are, usually, a predisposition to chorea, inherited or acquired, inanition of the nervous system incident to the hydramic state of the blood during pregnancy, and various potential peripheral irritations, especially in connection with the sexual organs. The most rational explanation of the chorea of pregnancy is that it varies in its immediate pathology, the pregnancy simply producing a condition of the nervous system which predisposes it to be thrown into an active chorea by various exciting causes."

Senile chorea is even more uncommon. Sinkler has reported two cases, which, according to Osler, are the only instances recorded in this country. Saundby has collected but twelve cases abroad, the ages ranging from fifty to eighty-six, six of each sex (Osler, MEDICAL NEWS, October 15, 1887). He also adds that it seems to be an intractable affection, similar in many respects to the juvenile form, not often associated with rheumatism, and the subjects of it are very frequently demented. Hammond affirms (*Diseases of the Nervous System*, 8th ed., p. 739) that "in those cases reported by authors, of the affection originating very late in life, we have every reason to conclude that they were instances of organic lesions of the brain or spinal cord—probably sclerosis—giving rise to rhythmical movements or paralytic tremor." The following, I think, will be admitted to be a case of chorea, pure and simple.

Mr. D. First saw him September 22, 1883, and he was then seventy-five years of age; his health had always been good; was rarely ever sick; no history of rheumatism or nervous affection of any kind when a child; had always worked hard on a farm; one year before, he began to notice some muscular weakness and want of control over the left hand, and, soon after, of the left foot also; later, his speech became affected, with the muscles of the left side of

his face, causing the peculiar and well-known grimaces characteristic of chorea. His general health remained unaffected; appetite good; ate heartily, slept well, etc. In October, 1886, he was attacked with hemiplegia of the right side, which rendered him entirely helpless; his speech became so indistinct as to be unintelligible, with complete paralysis of the right side. The choreic movements of the left side still continue, however, up to this time, as he is still living.

The family history is negative, but his children and grandchildren are affected with various nervous troubles. His daughter had chorea when a child, but recovered. His granddaughter (daughter of the one just mentioned) had hystero-epilepsy for two years, but has apparently recovered, after treatment with chloride of gold and sodium. His grandson (brother of the last mentioned) has slight choreic spasms of the right side of the face. The children and grandchildren were all relieved by treatment, but the old gentleman never improved in the slightest under any kind of treatment whatever.

This, to my mind, goes far to prove an hereditary tendency or predisposition, requiring only some special exciting cause to develop the malady.

MEDICAL PROGRESS.

The Treatment of Summer Complaint at the Thomas Wilson Sanitarium, Baltimore.—In acute diarrhoea, with vomiting of milk, the child is at once taken from the breast or bottle, and no food except beef tea is given to it for twenty-four hours. Small doses of calomel— $\frac{1}{2}$ to $\frac{1}{4}$ grain—are administered hourly for a day or two, to quiet the stomach and to excite the secretion of the liver. At the end of twenty-four hours sterilized milk is given. If the vomiting returns, the milk is stopped and beef tea is resumed for twenty-four hours, when milk is once more given.

No artificial foods are used in the Sanitarium. Irrigation of the lower bowel is practised two or three times a day, if it does good. In chronic cases, resorcin, grs. ij, with tr. opii deodorata, gt. $\frac{1}{2}$, is given every two or four hours. When vomiting proceeds from nervousness, sodii bromidum, grs. ij, and chloral hydrate, gr. j, are administered every two or four hours to a child of six months. This same prescription is used for sleeplessness. As a rule, no further medication is needed.

Dr. Brooker considers the sterilization of the milk a great improvement, likely to do away with wet-nursing and artificial foods. Milk as it flows from the breast is free from microscopic germs. Between the time when the cow's milk leaves the udder and the time when the baby drinks it various minute organisms may fall into it, which, either before or after the child takes it, produce changes in the milk which cause disorder of the digestive organs of the child.

By sterilization we either destroy these organisms or check their growth. The apparatus for sterilization is a covered tin bucket, 10 inches in height by 8 in diameter, and a wire basket, made by Dufur & Co., of Baltimore,

large enough to hold six or eight nursing bottles. In the bucket, filled to the depth of one inch with hydrant water, is placed the wire basket with the nursing bottles, each of them containing a suitable amount of milk and stopped with a wad of cotton batting. The bucket is then covered and placed on a gas stove, and the water is boiled for half an hour, the milk, bottles and stoppers becoming sterilized by the heat. After cooling, the basket of bottles is kept in a cool place, and one by one, as needed, the bottles are removed, the stoppers taken out and a disinfected nipple is attached for nursing. Milk enough to supply one baby for twelve hours is thus prepared at once, and if kept in a cool place—even without ice, it will remain sweet and wholesome until used. The whole apparatus, including bottles, costs a little more than a dollar.

It is stated by Dr. Brooker that when the infant's bowels have once been cleared of ill-digested milk by change to beef tea and by irrigation, the use of sterilized cow's milk, properly diluted, is followed immediately by great improvement in the health of the infant, as great as when it returns to the breast of its mother.

For irrigation of the bowels a fountain syringe full of tepid hydrant water is connected with a soft rubber catheter about fourteen inches long, and this catheter, oiled, is passed gently to its full length into the rectum and descending colon, the water—a gallon or more—being allowed to flow into the bowel and out again by the side of the catheter. This irrigation is painless and often aids greatly in recovery, especially in severe cases resembling cholera infantum.—*Maryland Medical Journal*, July 14, 1888.

The Supposed Transition of Benign Growths of the Larynx into Malignant.—It has been suggested that benign growths of the larynx, as a result of intra-laryngeal operations for their removal, are liable to become transformed into malignant tumors. This suggestion, if proved to be well founded, would do much to show that von Bruns's introduction of the intra-laryngeal operation for tumors was not the great improvement it has been held to be; but, on the contrary, a very mischievous procedure. The plan of collective investigation has been employed by Dr. Semon, the editor of the *Internationales Centralblatt für Laryngologie*, etc., to throw light upon this subject, and in the July number of that journal the results of the inquiry are briefly given. These are so important that the profession ought at once to be made fully acquainted with them.

Returns have been furnished by 107 observers, who have together recorded 10,747 cases of benign growths in the larynx and 1550 cases of malignant tumors. Of these 10,747 cases of benign growths, 8216 have been submitted to intra-laryngeal operation, and among this number there are 3382 cases of papilloma. An apparent transformation from benign into malignant growths has been noticed in thirty-two instances. Each one of these cases must be submitted to a very careful criticism, but, apart from that, as many as sixteen of the number are by those who record them marked as "doubtful," and they cannot therefore be used. It is quite open to question whether the remaining sixteen cases do not include examples of "mixed" growths, and it is noteworthy that the tables include twelve cases not submitted to intra-laryngeal operation, in which a similar change in

the nature of the growth was thought to be noticed. But putting aside this view altogether, we are met with this supposed change in one case out of every 513 cases thus treated. It must be at once admitted that if the operation had any appreciable influence in modifying the nature of a neoplasm, the proportion of cases in which it would be observed would be much greater than this.

Considering the enormous advantages the intra-laryngeal method of operating possesses, it is a matter of considerable satisfaction that it is thus conclusively shown not to be attended with the grave danger that has been suggested in some quarters.—*Lancet*, July 7, 1888.

Salicylate of Sodium in Acute Articular Rheumatism.—In what large doses salicylate of sodium can be given in acute articular rheumatism is well shown by the experience of PROF. V. JAKSCH. "In a severe case of articular rheumatism, in an otherwise healthy individual," he says, in the *Wiener medizin. Pr.*, No. 1, 1888, "I give at least 150 grains, even 225, 300 to 360 grains of salicylate of sodium in the first twenty-four hours of treatment. Should toxic symptoms arise—a rare occurrence, I do not stop the remedy, but merely reduce the dose, so that, for instance, instead of 15 grains but 8, or even 4, are hourly given; I do not consider it judicious to stop the remedy entirely. As a result of this treatment, as a rule, the main symptoms disappear after a few hours, the patients sweat profusely and feel comfortably. In the second twenty-four hours, the salicylate is and must be continued, but in smaller doses; if 300 grains have been given in the first twenty-four hours, 270 or 240 grains are now given, whether the patient show toxic symptoms or not; even then it is injudicious to at once discontinue the salicylic medication; is this done, a relapse may be hourly awaited; to prevent such relapse, the patient must continue the salicylic treatment at least eight days, the quantity of the drug used being day by day diminished."

Should no marked improvement occur after the first twenty-four hours, the case is one of those not infrequent cases of acute articular rheumatism which resist treatment with the salicylic preparations. In these, the benzoate of sodium, up to 450 grains a day, is particularly recommended.—*Deutsche medizin. Wochenschr.*, June 14, 1888.

Agaricin for the Sweats of Phthisis.—LAUSCHMANN (*Pest. med. Chir. Pr.*, 1887, Bd. 4) recommends the following formula:

R.—Agaricin. gr. j.
Pulv. ipecac. et opii gr. xv.
Gum Arabic,
Pulv. alth. $\frac{1}{2}$ gr. viii.—M.
Ft. Pil. No. xv.

S.—One or two pills at night.

—*Deutsche med. Woch.*, July 5, 1888.

The Relations of the Subcortical Centres to Epileptic Seizures.—ZIEHEN, of Jena (Versl. d. Südwest.-deutsch. Neurologen u. Psychiater), has found that mechanical irritation of the corpus striatum, of the middle and posterior portions of the thalamus opticus and of the anterior pair of the corpora quadrigemina gives rise to energetic movements of locomotion, while irritation of the

posterior pair of the corpora quadrigemina occasions tetanic convulsions. He, therefore, considers the centres last mentioned as the source of the tonic convulsions of epilepsy.—*Wiener medizin. Pr.*, July 1, 1888.

Sulphonal.—Two articles on this subject appear in a recent number of the *Berliner med. Wochenschr.* (June 18th), one by DR. H. ROSIN, of Breslau; the other by DR. C. OESTREICHER, of Berlin.

DR. ROSIN tried sulphonal on eighty-two patients, besides others. In doses of two grammes (half a drachm) it was found almost invariably to have a decided hypnotic effect, without any disturbing symptoms, even when cardiac derangement was present. Such a dose Dr. Rosin considers equal to one-sixth or one-seventh of a grain of morphine, but the latter was found more efficient when the insomnia was due to cough or pain. A dose of four grammes (one drachm) produced a sleep lasting three or four hours in the daytime, but much longer at night; but the sleep after the dose always left a feeling of heaviness behind it. DR. Rosin, who sticks to his text, concludes thus: "On the whole, sulphonal in doses of two grammes (half a drachm) is as certain in its effects as morphine or chloral, and in cases of simple insomnia may be recommended in doses of double that strength, on account of its freedom from after-effects."

DR. OESTREICHER observed the effects of sulphonal on fifty patients with nervous diseases, besides some who were phthisical, and concludes that in moderate doses—that is, two grammes (half a drachm)—this drug is a non-injurious hypnotic. Respiration, pulse and kidney-secretion were unaffected; the effects of persistent use are, of course, unknown at present. It is best given in capsules or tabloids, from its insolubility in water. Oestreicher finds it without smell or taste; Rosin states that it has a slightly bitter taste. Sleep sets in more slowly than after chloral or morphine, in corresponding doses, but lasts longer. The editor of the *Berliner klin. Wochenschr.* confirms the above from observations of his own.—*British Medical Journal*, July 7, 1888.

Quebracho for Dyspnoea.—From a study of seven cases with asthmatic symptoms and dyspnoea in various affections, as in ascites, bronchial catarrh, emphysema and tuberculosis, WALTER P. ELLIS recommends quebracho in the treatment of dyspnoea. He uses both the solid and the fluid extract of *Aspidosperma quebracho* (as reported in the *Therap. Monatsh.*), and states that the remedy is the more effective the severer the attack. It not only checks the paroxysm, but is equally prophylactic for months. When the dyspnoea occurs on exertion and interferes with the occupation of the patient, the prophylactic efficacy of the drug exceeds the anticipations of doctor and patient. At the beginning or, when possible, shortly before the beginning of the seizure, or upon contemplated exertion which is known to cause seizures, Ellis gives a grain and a half to two grains of the solid extract or a teaspoonful of the fluid extract, repeated at intervals of an hour, as required. He considers plausible Penzoldt's hypothesis that, through the influence of the remedy, the blood is able to take up more acid than usual and thus to satiate the intense demand.—*Wiener medizin. Pr.*, June 10, 1888.

The Topical Use of Camphoric Acid.—REICHERT has, since a year and a half, successfully used camphoric acid for chronic affections of the mucous membrane of the respiratory tract, the mouth, the bronchial tubes and of the skin. This acid is a product of the action of nitric acid upon camphor, is soluble slightly in water, freely in alcohol and ether. It is astringent and antiseptic. One-quarter to two per cent. solutions are recommended in acute angina faucium (not in diphtheria), in acute and subacute pharyngo-laryngitis and tracheitis. Inhalations of one to two per cent. solutions are less useful, but satisfactory. Acute coryza is allayed or moderated by a 1 to 500 solution in douche, or by two to four per cent. application with a brush. In chronic bronchitis and bronchiectasis camphoric acid acts as an expectorant and disinfectant. Tuberculous sores heal in six to ten weeks with a two to six per cent. solution.—*Münchener medizin. Wochenschr.*, June 12, 1888.

The Relation of Puerperal Insanity to Puerperal Infection.—TH. HANSEN, of Copenhagen, has published an interesting study (*Centralbl. f. Gynäk.*, No. 20), the object of which is to demonstrate that puerperal infection, to which most modern authors ascribe only an occasional or predisposing influence, has a real causal relation in the production of puerperal psychoses.

While assistant physician, partly in a neurological department, partly in the maternity, Hansen collected 49 cases of puerperal psychoses, of which 21 were under his own observation. Of the 49, not less than 42 showed signs of puerperal infection; of the latter number not less than 12 were fatal. These 42 are grouped by Hansen as "infection psychoses," the features of which are acute hallucinatory confusion, followed by restlessness and a feeling of fear, passing into a condition of stupidity or depression, in which the first stage exacerbates. Among the 7 cases in which puerperal infection could not be proven 2 were of eclampsia with hallucinatory confusion of short duration; the other 5 were psychoses of a different kind.—*Wiener medizin. Pr.*, June 10, 1888.

Lanolin and its Imitations.—German medical literature contains frequent testimonials, from clinical observers, of the extended uses of lanolin as an unguent basis in the treatment of skin diseases, the therapeutic application of inunctions to the treatment of constitutional diseases, as an obstetric application in the treatment of wounds and cuts, and cosmetically in the prevention of sunburn and freckling, and even "the prevention of wrinkles." Professor Oscar Liebreich's most valuable and original addition to our storehouse of the therapeutic resources is, however, subject to the usual drawback which attends the introduction of any novel and useful substance, by the occasional substitution of imperfect imitations and inferior products simulating lanolin, at least in title, which produce deleterious effects.

DR. G. MEYER, of Berlin, reports to the following effect in the *Deutsche med. Wochenschr.*, No. 19, 1888. A man, aged thirty-eight, had a hard chancre in 1875, and was treated in the Charité Hospital, Berlin, and elsewhere, for relapses, during the next five years. In June of last year he suffered from hoarseness and swelling of the testicles. Amongst other treatment, the following ointment was applied to the testicles: Pot. iodid., 1 gramm (15 grains); lanolin, 10 grammes (150 grains).

The word "lanolin" was written without any affix. Severe acute dermatitis of the scrotum followed, with great swelling, redness and burning heat of the skin. The penis participated. The man could not walk about, and, therefore, left off work. The inflammation, he said, set in after the fourth infliction. The general health was not affected; the penis, as above said, shared in the inflammation, which affected both sides of the scrotum. Epididymitis was excluded accordingly, and suspicion rested on the ointment. More of this was ordered, as before, for examination only, and it smelt "acid and rancid." The skin remained like thick leather for some time. An ointment of one part of potassium iodide in ten parts of lanolin puriss. (Liebreich) was then rubbed in by Dr. Meyer himself. The skin was distinctly thinner two days afterward, without any trace of irritation by the ointment. The previous inflammation was due, there is no doubt, to the rancid lanolin used, for all sorts of lanolin, except Liebreich's, contain several fatty acids. The percentages of these in various samples of lanolin are given in the *Deutsche med. Wochenschr.*, No. 28, 1886, as 33, 26, 17, 16, 16; in Jaffé and Darmstaedter's lanolin, 0.5 to 1.—*British Medical Journal*, July 7, 1888.

Encephalic Asymbolia.—Under this term, MEYNERT, before the Society of Physicians at Vienna, described one of the forms of aphasia. Objects may be seen, but the patient can make no use of the visual impression, because the recognition of the optic pictures is lost. There is a disturbance of association between the optic centre and the centre for the interpretation of visual impressions.—*Wiener medizin. Presse*, June 10, 1886.

Ichthylol in Erysipelas.—The Russians are reviving the recommendation of ichthylol for erysipelas. The remedy has been used partly as collodion (ichthylol, ether, &c. 10 parts, collodion 150), partly with vaseline (equal parts), and surprising results are claimed. It is emphasized that the application extend to the neighboring healthy tissue.—*Deutsche medizin. Wochenschr.*, June 14, 1888.

Antiseptic or Aseptic Solutions for Injection or Douche.—DR. MELIN, in *Revue Générale de Chirurgie et de Thérapeutique*, June 28, 1888, recommends the following weak carbolic solution (Lister's):

R—Crystallized carbolic acid	25 parts.
Alcohol	25 "
Distilled water	1000 "
or,	
Crystallized carbolic acid	25 parts.
Glycerin	25 "
Distilled water	1000 "

The latter solution is better adapted to the tissues than the preceding.

Acromegalia.—FRAENTZEL, before the Verein für Innere Medizin, at Berlin, on June 4, presented a case of acromegalia in an intemperate patient with phthisis. There was enormous development of the bones of the extremities and of the face. The hands and feet were much enlarged. Fingers, toes and nails were colossal. The soft tissues of the corresponding parts were swollen and of a peculiar, doughy consistence. The nose was conspicuous for its thickness, the lips for their prominence. At the autopsy, there was narrowing of the aorta; there

was no trace of the thymus gland; the thyroid gland was normal. In this case, the acromegalia was shown to have existed since early youth, and the condition was transmitted to a daughter of the patient.—*Wiener medizin. Presse*, June 24, 1888.

A Novel Treatment of Hydrocephalus in Infants.—DR. SOMMA (*Deutsche med. Ztg.*) has, with good results, availed himself of the heat of the sun in the treatment of five cases of chronic hydrocephalus. These are his conclusions:

1. The treatment of hydrocephalus congenitus and chronicus in infants, by means of the heat of the sun, is to be preferred to all other therapeutical measures.

2. The physiologic-therapeutical efficacy of the treatment probably consists in the excessive functional activity of the local sweat glands in consequence of the powerful excitation and of the high temperature of the head, by means of which the intracranial collection of serum is absorbed. Perhaps, too, the thermic irritation stimulates the vaso-motor innervation and, in consequence, an increased activity of organic oxidation and an increased absorption of the fluid and solid intracranial elements.

3. Recovery will be most ready when there is no injury of the cerebral tissue and the nervous manifestations are exclusively the result of pressure, when the child is otherwise healthy and not reduced; and the hydrocephalus, particularly if ventricular, shall not be far advanced.

4. The treatment is as follows: The child is given to an assistant, whose head is covered; with a clear sky, the occiput is exposed to the rays of the sun, the assistant seated and immovable. In the first four or five days, the exposure may last a half hour or less; later, forty or fifty minutes. The treatment must thus be continued for a month.—*Wiener medizin. Presse*, June 10, 1888.

Biliary Calculi in Women.—MARCHAND (*Deutsche med. Wochenschr.*, 1888, No. 12) thinks the frequent occurrence of gall-stones in women due to tight lacing, and finds a causal relation for the association of fissures of the liver and gall-stones. The compression from lacing mostly affects the region of the cystic duct, causing an abnormal retention of bile, with consecutive formation of calculi.—*Fortschritte der Medizin*, June 15, 1888.

The Use of the Double Salts of Caffeine in Pulmonary Diseases.—DR. GEMPT, from a careful study of this subject, reaches the following conclusions:

1. The double salts of caffeine are indicated in acute fibrinous pneumonia, when the heart's force lessens, the arterial pressure falls, or the pulse becomes abnormally frequent or arrhythmic.

2. The administration of the remedy is to be begun, if possible, before signs of collapse arise, but the indication is the more positive in case of unexpected collapse.

3. When asthenia or lesions or degeneration of the heart exist, and in the cases of infants and of old persons, the remedy is to be recommended at the beginning of the disease.

4. The proper administration of appropriate doses causes diminished frequency of pulse and respiration, rise in arterial pressure, reduction of temperature, and produces a favorable influence upon the subjective condition.

5. The action begins speedily, but is more speedy and

more certain in threatening cases if the drug is injected subcutaneously.

6. In conditions of pulmonary atelectasis or hypostasis, the same indications exist.

7. The indications for the use of the sodio-salicylate of caffeine in pulmonary emphysema and asthmatic conditions is analogous to those for its use in heart diseases.—*Berlin. klin. Wochenschr.*, June 25, 1888.

Naphthol in Ozæna.—At the recent Congress of the French Society for Laryngology, RUALT recommended naphthol in the treatment of ozæna. He irrigates the nasal cavity, three or four times daily, with the following solution, to be freshly prepared before each application: To a quart of water, add a teaspoonful of a solution of equal parts of borate of sodium and bicarbonate of sodium, and a teaspoonful of a solution of beta-naphthol, 12 parts, in alcohol (90 per cent.), 84 parts. In obstinate cases, in addition to the preceding, cotton tampons, saturated with the following, are introduced into the nares for fifteen minutes: beta-naphthol, 12 parts, tincture of quillaya 88, distilled water, 400. The advantages of this treatment are the rapid disappearance of the odor and the decided diminution in the secretion. The only objection to naphthol is a slight burning, occurring immediately after its use, but soon disappearing.—*Wiener medizin. Presse*, June 17, 1888.

Sulphonal.—SCHWALBE, of Friedrichshain, assistant to Fürbringer, from study of the use of sulphonal in fifty cases, concludes that:

1. Sulphonal is an agreeable medicament, being odorless and tasteless.

2. It acts as a hypnotic in cases of "nervous" sleeplessness, in doses of fifteen to thirty grains. When the insomnia is the direct result of organic disturbances due to existing disease the action is more or less uncertain.

3. Sulphonal does not affect temperature, pulse or respiration, and is to be preferred to morphine and chloral when heart failure is to be feared. It is especially to be commended for children.

4. The subjective manifestations, immediate and subsequent, are insignificant, and not a contraindication for the use of the drug.—*Deutsche medizin. Wochenschr.*, June 21, 1888.

The Symptomatic Value of Optic Neuritis.—MANZ, of Freiburg (Versl. d. Südw.-deutsch. Neurologen u. Psychiater), discussed the symptomatic significance of the optic neuritis which is so frequent in cerebral affections. GRAEFE held the increased intracranial pressure as the cause of the neuritis, while Manz ascribed great significance in the pathogenesis to the communication between the sheath of the optic nerve and the subarachnoid space. LEBER explained the neuritis by the presence of products of disintegration originating in the neighborhood of the cerebral lesions. This view, to which DEUTSCHMANN also subscribed, is, however, hardly probable, and opposed by a number of clinical facts: 1. Variations in the intensity of the papillary changes; 2. The infrequency of optic neuritis in meningitis; 3. The neuritis is very rare in encephalitis suppurativa; should exudation occur, it is serous and not purulent; 4. The neuritis seldom attends apoplectic attacks, though inflammation frequently occurs in the neighborhood of the clot.—*Wiener medizin. Pr.*, July 1, 1888.

THE MEDICAL NEWS.

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THE RELATION OF ATMOSPHERIC CONDITIONS TO CHOLERA INFANTUM.

THE belief that atmospheric heat and humidity influence powerfully the production of intestinal disease in young children has been for many years prevalent and unquestioned. With the light thrown upon the subject by the study of bacteria and fermentation, this belief has been called in doubt, and recent studies go to show that opinions must be revised, and that the influence of climate is now a moot point.

In a paper read before the New York Academy of Medicine early in the present year, SEIBERT reported the results of ten years' observations on climate and intestinal disease in children, including his personal study of 8000 cases, from which he drew conclusions unexpected alike to himself and to others. He found that a *high* temperature, moist or dry, is not necessary for an epidemic of cholera infantum. Weather, with a *minimum* daily temperature not below 60° F., invariably brings on the disease, and without regard to the maximum daily temperature. When the minimum daily temperature remains below 60° F., cholera infantum ceases to be epidemic. Hence he concludes that this disease cannot be brought about by the direct working of high temperatures on the infantile body, but must have other causes. Rainfall and wind velocity were found to be without influence.

Seibert next ascertained that the milk supply of a city begins to decompose when the temperature ex-

ceeds 60° F.; and that vegetable matter contained in the sources of water supply undergoes decomposition, sufficient to be perceptible to the senses, at the same temperature. He considers the food and drink decomposed at certain temperatures, as causes of intestinal disease in young children, and that the direct influence of climate upon the organism is not an etiological factor.

In corroboration of his views are the conclusions reached by MEINERT (*Deutsche med. Wochenschrift*, June 14, 1888), from a statistical study of infant mortality in Dresden and vicinity. He found that it was not high temperature, but the conditions favorable for decomposition which cause cholera infantum. Italy, although warmer, had a lower mortality than Northern Europe, because the atmosphere of dwellings was more constantly changed in the warmer country, and decomposition prevented. A stagnant, warm atmosphere Meinert believes to be an exciting cause of the disease. He regards the fever of cholera infantum as the invasion fever of a zymotic disease, the cause of which becomes pathogenic when the atmospheric condition described is present, and when zymotic changes occur in the child's food.

These results are especially interesting, in view of the more general use of sterilized food for infants, and the antiseptic (or antifermenative) treatment of intestinal disease. While digestion offers so many unsolved problems, we shall do well not to increase the complexity by introducing previously decomposed food; and whether bacteria, or ptomaines, or both, are the active cause of disease, it is essential to hold clear ideas regarding the relative importance of the various factors in this complex problem.

THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

We have from time to time given the preliminary programmes of the several societies which are to take part in the meeting at Washington in September next, and from these, taken in connection with the announcement from the local Committee of Arrangements, which we print on another page, it seems quite certain that the meeting will be a very busy one, that some papers of unusual importance will be presented, and that, in a quiet way, due hospitality for the guests and opportunities for social intercourse will be provided.

It seems that the Executive Committee had decided that there should be nothing like a general banquet, and by placing all the work of the Congress

proper in the three evenings, made it practically impossible to have such a banquet during the three days of the meeting. Some members of the different societies wished to have an opportunity to give a dinner to their guests, and have, therefore, united in arranging for such an entertainment on the Monday evening preceding the opening of the Congress. This is, of course, entirely a private entertainment, and the invitations will be confined to the guests of the several Societies forming the Congress.

We have received several requests for information as to how volunteer papers from persons, not members of any of the Societies taking part, can be brought before the Congress, which show that the organization is not understood. The business of the Congress, as a conjoint meeting of all the special Societies, is confined to three evenings, and no papers, except those already provided for, can be presented on those evenings. It is to the individual Societies, which have their meetings during the day, that such papers should be offered.

The final announcement of the arrangement of papers and discussions is to be issued in August. It is understood that the Address of the President, Dr. Billings, will have Medical Museums as its subject.

MEDICAL LEGISLATION IN THE PROVINCE OF QUEBEC.

THE session of the Provincial Legislature of Quebec which has just been prorogued was one of great interest to the medical profession.

In the first place, the Medical Bill, which has exercised the minds of the College of Physicians and Surgeons for the past two or three years, was thrown out, to the great satisfaction of the English-speaking part of the profession. This bill provided that all the subjects of the preliminary examinations in general education should be conducted on the lines of the instruction afforded by the *cours complet* of the French colleges. Had the bill carried, it would have compelled English students either to give up the idea of entering the profession or to obtain their education at one of the French collèges. Now this education is a clerical one and includes many subjects not taught in English schools, such as old-time philosophy, rhetoric, style, etc., and leaves out a thorough instruction in those subjects which, in the opinion of Anglo-Saxons, most fit one to enter successfully on the battle of life.

The bill referred to acknowledges that a B.A. degree from our best English universities was a suffi-

cient guarantee that the individual was qualified to enter on the study of medicine. The student forsooth, must know something of the philosophy of St. Thomas Aquinas in order to combat successfully the heretical doctrines which are now so frequently taught in schools of medicine.

The bill also provided that hereafter no degree from any university whatever should entitle a man to register as a practitioner, but that every one wishing to practise in Quebec Province must pass an examination before the College of Physicians and Surgeons. This portion of the bill was aimed at some of the universities which graduate men too easily, and whose degrees have not the high standing they should have. However, this went with the rest. It is very questionable whether men elected by the general body of the profession, and who are not teachers, are fit to examine in the more scientific branches of the profession, as their appointments are usually made for territorial and political reasons.

A very good health bill was passed which confers enormous powers on the Provincial Board of Health. It is hoped that this Board will make good use of these powers.

The registration bill which was sent up with the health bill was thrown out, so that the registration of births and deaths is still left in the hands of the churches, and the children of those persons who belong to no church fail to appear in the birth list. No certificate of the cause of death is required, so the mortality statistics are now, as they always have been, thoroughly unreliable.

THE Second International Congress for Hydrology and Climatology will meet at Paris early in October of 1889. The precise date has not yet been fixed.

THE University of Bologna has conferred honorary degrees in medicine upon the following representatives of German medicine: Liebermeister, Schiff, Koch, Billroth, Köllicker, Pettehkofer, Ludwig, Virchow and O. Hertwig.

DR. GEORGE M. STERNBERG, U. S. A., and Prof. Hirsch, of Berlin, have recently been elected Honorary Members of the Epidemiological Society of London.

DR. LÖFFLER has been made ordinary Professor of Hygiene, and Dr. Knorr, of Würzburg, the discoverer of antipyrin, Professor Extraordinary, at the University of Greifswald.

PROF. V. LIEBERMEISTER, of the medical faculty of the University of Tübingen, has been made a consulting body physician by the King of Wurtemberg.

PROFESSOR MAX FÜRBRINGER, of Amsterdam, has been elected Professor of Anatomy at the University of Jena.

PROF. PREYER, of Jena, has resigned his professorship to go to Berlin in the fall. The medical faculty of the University has unanimously decided to establish a second chair in anatomy, for which position Prof. Bardeleben is held in view.

At the Commencement Exercises of Union College, in June, 1888, the honorary degree of LL.D. was conferred upon Mr. Lawson Tait, F.R.C.S., Prof. of Gynecology in Queen's College, Birmingham, Eng.

DR. CHARLES E. T. MONTCALM, the great-grandson of the Marquis de Montcalm de Véran, who fell at Quebec, in 1759, died at Brooklyn, July 17th. He was born at Paris, in 1821, was educated in medicine in that city and at London, and for a time taught chemistry at the Middlesex Hospital. He was secretary to Minister Thiers and held other important positions at Court until 1845, when he went to London, incurring his father's displeasure. He inherited a fortune from his mother, and his mansion at London became a shelter for hundreds of political refugees. His father dying in 1856, he returned to France to attend to his inheritance. This was in the time of Napoleon III., who caused his arrest on political charges upwards of fifteen times, and finally his imprisonment for seven years. He escaped from France in 1864, in the disguise of a priest, and made his way back to London, only to find that his property in France had, during his imprisonment, been drained by governmental fines and charges to the point of confiscation. His home in London had been destroyed by fire while he was a prisoner, as was alleged, by agents of the Empire, for the purpose of securing or destroying certain political documents of a compromising nature. In 1866, finding himself impoverished, he left for America. He lived for ten years in New York City and during the remainder of his life in Brooklyn. He engaged in medical practice and chemical work until about three years ago, when he was compelled by cardiac disease to lay aside his labors.

SOCIETY PROCEEDINGS.

AMERICAN OTOLOGICAL SOCIETY.

The 21st Annual Meeting held at New London, Conn., July 17, 1888.

MORNING SESSION.

MISCELLANEOUS BUSINESS.

The Society was called to order by the President, DR. J. S. PROUT, of Brooklyn, who alluded in his opening address to the loss sustained by the Society in the death of Dr. C. R. Agnew, of New York, and suggested that action be taken.

On motion, Dr. Gorham Bacon and Dr. W. H. Carmalt were appointed to prepare an appropriate minute on the subject.

DR. E. WILLIAMS, of Cincinnati, on account of failure of health, presented his resignation. This was accepted; on motion of Dr. Carmalt, the by-laws were suspended and Dr. E. Williams was elected an honorary member of the Society.

DR. W. H. CARMALT presented the report of the Committee of Conference on the Congress of American Physicians and Surgeons. It was accepted and it was decided that when the Society adjourns, it do so to meet at the Arlington Hotel, Washington, D. C., September 18, 1888, at 11 A.M.

On motion of Dr. Green, it was decided that the meeting should be strictly for scientific matters and should not be regarded as a business meeting; that it should not take the place of the annual meeting.

DR. C. H. BURNETT, of Philadelphia, reported

A CASE OF AURAL VERTIGO (MÉNIÈRE'S DISEASE) RELIEVED BY EXCISION OF THE MEMBRANA TYMPANI AND OF THE MALLEUS.

The patient was an unmarried woman, thirty-seven years of age, who six years previously had been under treatment for chronic naso-pharyngeal catarrh and chronic catarrh of the left middle ear, accompanied with hardness of hearing, tinnitus aurium and a sense of fulness in the affected organ. Treatment of the catarrhal disease of the ear produced no benefit. After the lapse of six years, the symptoms already named grew worse and there was superadded marked aural vertigo. The membrana tympani, in the line of the malleus-handle, was found adherent to the promontory, and the consequent retraction of the entire chain of bones was held to be the cause of the aural vertigo, of the sense of fulness and of the tinnitus.

The operation of excision of the membrana tympani and of the malleus was performed under ether, May 21st last, with entire and immediate relief to the aural vertigo (which before had often been sufficient to cause the patient to hold to a lamp-post for support), to the sense of pressure and to the tinnitus, which good result has been maintained to the present time. The hearing was practically unaffected by the operation. The incus was detached from the stapes, but could not be removed, as it slipped into the attic, and grappling for it is not advisable, on account of the risk of irritation. Its removal, furthermore, would have no effect on the result of the operation.

DR. J. O. TANSLEY, of New York, stated that he had now under observation a girl on whom this operation was performed some eighteen months ago. When she came to him, the whole internal canal was filled with polypi and she presented various brain symptoms. All the polypi were removed, a portion of the drum remaining, and above this was a localized necrosis, into which a probe passed at least one-fourth of an inch. The patient has been under observation every day for two months; the local necrosis is healed and she is doing well. There are still some brain symptoms. It seems that this is a very serious operation, and he would hesitate some time before performing it, on account of the results that might occur. In this case, the result seems directly traceable to the operation.

DR. BURNETT said that, in his case, a discharge appeared two or three weeks after operation. There is still a slight discharge, but the membrane is forming. In another case, a slight discharge appeared soon after the operation, but ceased after the membrane had re-formed. The case reported by the last speaker was not one of the class to which he had alluded. The operation was evidently not properly performed, if there remained a portion of the membrane and there was necrosis. He had not found this dangerous operation.

DR. CHARLES J. KIPP, of Newark, remarked that this operation has been performed a number of times by foreign operators, for the relief of tinnitus and vertigo, but has been given up because it did not relieve these symptoms satisfactorily. There were, however, no bad results.

DR. SEXTON, of New York, had performed this operation between fifty and one hundred times in the past few years, and had obtained decided benefit in a number of cases of tinnitus and other subjective symptoms. He had known of no case in which there was aggravation. In many cases in which there has been no marked tinnitus, the distressing sense of pressure has been overcome. The tinnitus is not always relieved by the operation. His principal endeavor has been to avoid re-formation of the drum membrane. In a number of cases in which this occurs, the good hearing is lost. He prevented this by the application of a solution of salicylic acid in ether to the margin of the closing membrane. This has succeeded even when the membrane has closed down to a minute opening.

DR. B. ALEX. RANDALL, of Philadelphia, was invited to take part in the discussions of the Society. He said that in Dr. Tansley's case the operation may have been done for the necrosis. The presence of polypi of the size referred to indicates great neglect, and the results are more probably attributable to this neglect than to the operation.

Dr. SEXTON then exhibited

A NEW PORTABLE BATTERY FOR THE STORAGE OF
ELECTRO-MOTOR FORCE
and

A NEW HEAD-LANTERN FOR THE EMPLOYMENT OF
ELECTRIC LIGHT IN SURGERY.

The battery was made, at his suggestion, by the River and Rail Electric Light Company of New York. It consists of three cells, and will light a six-candle electric light. The lantern is a modification of that of Trouve, but much lighter, and having a non-conducting base.

Such a light is almost necessary in operations on the ear when ether is used as an anaesthetic. The battery will work continuously for twenty-four hours, and will retain its power for several weeks or months. It may be charged by a dynamo or by twelve gravity cells. When not in use, the storage battery may be kept in connection with the gravity cells.

DR. A. H. BUCK, of New York, then read a paper on

REFLEX INFLUENCE IN THE PRODUCTION OF
NASO-PHARYNGEAL CATARRH.

His object was to call attention to those comparatively remote exciting causes of naso-pharyngeal catarrh, which act, so far as it is possible to explain their mechanism, through the intervention of the vasomotor fibres of the sympathetic nerve. We know little of the direct exciting causes of naso-pharyngeal catarrh. The most common indirect cause is chilling of the surface of the body. According to certain authorities, affections of the teeth should rank next in order of frequency. The author has, however, seen very few cases in which dental disturbance played the part of a promoter of naso-pharyngeal catarrh or of aural disturbances. Some of those indirect causes which he has observed were then enumerated. Irritation of the gastro-intestinal canal is, in not a few instances, a strong exciting cause of naso-pharyngeal catarrh and of all the aural disturbances growing out of such a catarrh. A male, forty-five years of age, had, for years, been more or less a sufferer from naso-pharyngeal catarrh with tinnitus aurium and slight impairment of hearing, and more recently had begun to suffer from feeble digestion. He noticed that, after indulgence in certain articles, there would be abdominal discomfort and, at the same time, marked exacerbation of the naso-pharyngeal catarrh. So long as the offending substance was in the stomach, there was only a slight sense of discomfort, but, in the course of three or four hours, a slightly painful peristaltic movement would be set up in the bowels; simultaneously the secretion from the vault of the pharynx would become unpleasantly active and the tinnitus would increase. This condition would last for an hour, and then the naso-pharyngeal catarrh would return to its usual state. These attacks were accompanied with the escape of large quantities of gas by eructation. In many patients, usually men between forty and sixty years of age, in whom we have reason to believe that the gastro-intestinal tract is habitually in a state of greater or less irritation, we find the faecal mucous membrane red and swollen. In these cases, the disease which claims chief attention is the gastro-intestinal affection.

Reflex influences, involving the vault of the pharynx and the ear, may emanate from more distant sources. A lady, forty years of age, complained of distressing tinnitus, involving both ears. There had been mild naso-pharyngeal catarrh, from time to time, for many years. At times, she was almost entirely free from tinnitus. Dr. Buck always succeeded in giving prompt relief by applying to the vault of the pharynx a moderately strong solution of silver nitrate with a mop of absorbent cotton. After a time, these failed to give relief. It was then he learned that, for many years, she had suffered with pain in the pelvic regions and back, and that, at this particular time, she was suffering in a more marked degree. A specialist was then consulted and it was found that there was retroversion of the uterus and subacute parametritis. These

conditions were removed and the tinnitus disappeared without treatment to the vault of the pharynx.

He had spoken of these as indirect causes—that is, as factors competent to aggravate a preexisting, but perhaps latent, catarrhal disease; but he saw no reason why these reflex influences may not, in certain cases, play the part of direct exciting causes. He considered it impossible to demonstrate the correctness of this belief, and therefore preferred to adopt the view which assigns to them a less independent rôle.

DR. TANSLEY had met with many cases of nasopharyngeal catarrh in girls, fifteen to twenty years of age, who are decidedly anaemic and chlorotic, and who suffer with constipation, and had found that this was the cause of the catarrhal symptoms.

DR. S. D. RISLEY, of Philadelphia, said that it was generally admitted that nasal and pharyngeal diseases are especially liable to occur in persons of a gouty diathesis. Naso-pharyngeal disease is one of the most uniform manifestations of lithæmia. Some of the symptoms detailed in regard to the first case of Dr. Buck suggested that the digestive disturbance was probably associated with a lithæmic condition.

DR. BURNETT had seen a number of cases of tinnitus, without deafness, due entirely to dyspepsia. The use of nitrate of silver had been referred to. While this may be of service in other locations, it is the worst application that can be made to the nose or the naso-pharynx. Its use will be followed, sooner or later, by sclerosis and atrophy. It will apparently cure a hypertrophic catarrh, but the case comes to the rhinologist later with a marked atrophic process in the mucous membrane. He had entirely abandoned the use of nitrate of silver for affections of the nares.

DR. SEXTON referred to the fact that, in many cases, irritation in the mouth has been the cause of nasopharyngeal catarrh and aural symptoms. A lady was brought to him, with intense pain in the ear and head. There was nothing in the condition of the ear to account for these symptoms. Examination of the mouth showed that she was wearing a plate to bring the teeth closer together. The gum was intensely inflamed, although the patient complained of no discomfort. The removal of the plate caused a disappearance of the pain in the ear and head.

DR. TANSLEY had met with many cases in which irritation of the teeth caused aural symptoms. He agreed with Dr. Burnett that nitrate of silver should not be used in the nasal cavity. He had not made such an application for a number of years. There is in catarrh an increased thickening of the basement membrane; this tends to contraction and the tendency to contraction is increased by the use of nitrate of silver. He employs such agents as induce an exosmosis.

DR. J. F. NOYES, of Detroit, remarked that the paper brings up the fact that it is important that, in our special practice, we should consider general practice. He had always recognized those so-called reflex causes, and had treated cases by searching out these causes. A remarkable case of a lady, who after confinement developed nasopharyngeal catarrh, came under his notice. There was profuse secretion. The trouble continued for a year, in spite of treatment. Finally, she passed into the hands of a gynecologist. The cause was discovered and treatment of the uterine disease cured the nasopharyngeal disease.

DR. SAMUEL THEOBALD, of Baltimore, held that, when atrophy follows hypertrophic catarrh, it is the result not of the application of nitrate of silver but of the continuance of the catarrh. He questioned whether solution of nitrate of silver, ten to fifteen grains to the ounce, will produce sloughing, and regarded this agent as a valuable application in disease of the nasal membrane.

DR. CHARLES J. KIPP, of Newark, agreed with Dr. Theobald as to the value of nitrate of silver. He rarely uses it in a stronger solution than twenty grains to the ounce, and neutralizes it afterward by salt water.

DR. HENRY D. NOYES, of New York, had frequently noticed the connection between the lithæmic condition and certain affections not only of the naso-pharynx but also of the external auditory canal. There are certain eczematous conditions of the ear associated with the gouty diathesis.

DR. F. P. CAPRON, of Providence, referred to a number of cases of so-called hay-fever, in which the premonitory symptoms were those of indigestion. For two or three weeks before the time of the onset of the regular attack, the patient would complain of digestive disturbance.

DR. A. H. BUCK, of New York, then presented

A CONTRIBUTION TO THE ANATOMY OF THE ELEPHANT'S EAR.

The ear was exhibited and the interesting points indicated. The external auditory canal is imbedded in air-containing cells and is six and a half inches long. The canal at the time of examination was filled with desquamated material. In the middle ear, the handle of the hammer seems to lie in a horizontal plane. It is not vertical, as in the human being. The anterior part of the drum cavity is completely cut off from the posterior part. The Eustachian tube comes up through a system of air cells and opens through one of them close to the drum membrane. Under the floor of the tympanic cavity, there are three septa, making stall-like spaces. Two of these are quite long, six or seven inches. The labyrinth and other parts were not examined.

DR. HUNTINGTON RICHARDS, of New York, through Dr. Buck, reported

A CASE OF POLYPOID ANGIOMA OF THE EAR.

The patient, a girl six years of age, came under observation May 4, 1888, with profuse and badly smelling otorrhœa, unaccompanied by pain and dating only from the preceding February. Hearing seemed good. No bleeding from the ear had ever been observed. The general health was excellent.

Examination of the affected ear revealed a polypoid mass almost occluding the canal. The color was deep purplish-red. A considerable portion of the tumor was at once removed with the snare and the remainder of the growth was extracted on the following day, leaving a small pedicle attached, seemingly to the outer surface of the drum membrane close to the prominence formed by the short process of the hammer. This stump was cauterized with chromic acid. Hemorrhage from the cut surface of the growth was unusually profuse at both operations. The child's hearing is now excellent, although both membranes are depressed and of a dark grayish-red color. The removed growth was pronounced

to be an angioma. Three micro-photographs showing the appearance of the growth were exhibited.

He also reported the following

CASE OF FALSE-DRUM MEMBRANE.

The patient, a man, twenty-one years of age, was totally deaf in the affected ear. There was a vague history of an attack of otitis media in early childhood. The other ear presented the common appearance of otitis media purulenta chronica. Examination of the ear that was not discharging showed a membrane occluding the canal. It differed from the normal-drum membrane in color, shape, relation of its plane to the long axis of the canal and apparent thickness. It varied little in color from the skin lining the canal. The surface was perfectly smooth.

A triangular opening was made through this membrane. This caused no pain. Through this opening, it was seen that there was no drum membrane, but the inner wall of the tympanic cavity came into view. The hearing was only slightly improved. When seen a few days later, no discharge had appeared. Since that time he has not returned to the Infirmary.

DR. SEXTON had seen several such cases as that described in the last paper. In a case seen last year, he removed the membrane and then took out the malleus and incus. This case made a good recovery. The improvement in hearing was decided. He suggested this operation in such cases, as a possible means of improving the hearing, for it opens up the tympanic cavity, which is a good condenser of sound; and in the second place, to prevent the accidental occurrence of inflammation in these parts, when it might be difficult to obtain relief.

DR. T. Y. SUTPHEN, of Newark, had seen one or two cases of this trouble, which seemed to him to be due to cicatrical closure of the external canal. It seemed that the condition would be best spoken of as cicatrical closure of the canal.

DR. KIPP said that these cases result from granulations, and he had watched the formation of these membranes. In treating the condition, he incised the membrane and put in laminaria bougies.

DR. A. MATHEUSON, of Brooklyn, remarked that a lady was under his care for some time with an eczematous condition of the external meatus. She then passed from observation. Some time later, she presented herself with a disk-like closure of the external canal. This was not complete, as there was a small opening in the centre. He dilated this opening with laminaria bougies, and the ear was left in perfect condition.

DR. THEOBALD had reported a case in which there was occlusion of both external canals. There was a history of suppuration, and no doubt there was ulceration and gradual closure.

DR. BURNETT had seen several of these cases of dermoid diaphragms in the canal. Three of these were in private practice. One was in an old man, and it remained imperforate during the whole time he was under observation. The other cases were perforate when they came. There was slight discharge which was checked, and the perforation healed. In one case the discharge returned after a short time and the perforation reappeared. Under treatment it healed and had remained closed since, a period of four or five years. In the other case it remained closed for a year, when the opening returned

with slight discharges. The discharge ceased under treatment, the opening closed and has remained closed.

DR. RANDALL said that in the case of a boy, twelve years old, in which there was closure of the meatus as a result of injury with forceps during labor, he excised the diaphragm. The cavity was thoroughly washed out. The case was then treated in the ordinary way. The hearing obtained was certainly one-fourth of the normal.

EVENING SESSION.

DR. J. B. EMERSON, of New York, read a paper on
THE FLEXIBLE CATHETER AS A DRAINAGE TUBE,
WITH CASES.

He cited several cases exhibiting the use of the flexible catheter as a drainage tube.

With deeply seated inflammation of the auditory canal or mastoid cells, maintenance of drainage through a fistula is a necessity; and to prevent closure of the fistula, either by granular growth or natural healing, is important. He recommends the use of the flexible catheter as generally the best means to employ and states his reasons to be the comparative comfort and safety, together with the convenience of control by both surgeon and patient. The efficiency observed in the use of the flexible catheter was also referred to.

DR. O. D. POMEROY, of New York, said that some years ago he had recommended the use of soft rubber tubing in suppurative otitis in little children, with closure of the canal with no changes except swelling. The canals are so small that the tube cannot be pushed in in the ordinary manner. A piece of small tubing was hooked to the extremity of a notched probe which passed through it. The tube was then drawn tight, thus reducing its size. In this way it could be readily introduced; when the tube was released, it tended to resume its proper size and the probe was withdrawn. Almost all these cases did well.

DR. KIPP then reported

THREE CASES OF TRANSIENT BILATERAL HORIZONTAL NYSTAGMUS, IN CONNECTION WITH PURULENT INFLAMMATION OF THE MIDDLE EAR.

Case I.—A young man, twenty-one years of age, had had otorrhœa seven or eight years previously. Three months before he came under observation, he had an acute exacerbation and suffered at intervals with pain in the ear and head. The otorrhœa much diminished. Two or three weeks later, he came, stating that he saw objects double, was dizzy and could not walk. There was marked nystagmus in a horizontal direction. The vertigo and nystagmus continued four days. With the cessation of the nystagmus, the vertigo disappeared.

Case II.—A young man, treated six years previously for acute otitis media purulenta ending in recovery, appeared in March, with an acute attack. Paracentesis was performed. The pain, however, continued for a long time. Finally, swelling developed behind the mastoid, and this was accompanied with several epileptiform attacks. One day, pressing on the swelling, pus poured from the canal. With this there was a sudden jerk of the head and nystagmus. The latter continued for about ten minutes. This was produced every time pressure was made on the mastoid. The mastoid was subsequently opened. Since then there has been improvement.

Case III.—A young man, after exposure, was seized with intense pain in the ear, followed by otorrhœa. When he came under observation there was great pain. This was not relieved by treatment, but continued two or three weeks. Then a swelling appeared below the ear. This was incised and a large quantity of pus evacuated, with relief to the pain. Some days later, while washing out the cavity, the fluid came through the ear when considerable force was used. At the same time, there was a jerk of the head and nystagmus continuing several minutes. This could always be produced by making a forcible injection.

DR. POMEROY said that reference had been made to epileptiform symptoms in one of the cases. He had recently seen a case of epilepsy in which the exciting cause was suppuration of the middle ear. With recovery from the ear disease, the convulsions ceased and have not returned.

DR. TANSLEY exhibited

AN IMPROVED AURAL SNARE,

designed to overcome an objection in the ordinary Wilde snare, that is, the little jerk and rebound of the instrument when the growth is cut through. The instrument exhibited consists of a small tube, through which the wire passes to be connected with a small bobbin, by the turning of which it is gradually shortened.

EXECUTIVE SESSION.

The following were elected

OFFICERS FOR THE ENSUING YEAR :

President.—Dr. J. S. Prout, of Brooklyn.

Vice-President.—Dr. Gorham Bacon, of New York.

Secretary and Treasurer.—Dr. J. J. B. Vermyne, of New Bedford, Mass.

Committee on Membership.—Dr. A. Mattheuson, Dr. D. B. St. John Roosa and Dr. John Green.

Members of Executive Committee of Arrangements of Congress of American Physicians and Surgeons.—Dr. W. H. Carmalt, of New Haven; Alternate Dr. G. Bacon, of New York. The Society then adjourned to meet at the Arlington Hotel, Washington, D. C., Tuesday, September 18, 1888.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-fourth Annual Meeting, held at New London, Conn., July 18 and 19, 1888.

WEDNESDAY, JULY 18TH.—MORNING SESSION.

The Society was called to order by the President, DR. W. F. NORRIS, of Philadelphia.

MISCELLANEOUS BUSINESS.

DR. H. D. NOYES, of New York, read a memorial of the late Dr. C. R. Agnew.

Drs. W. H. Carmalt and C. S. Bull were appointed a committee to prepare an appropriate minute in regard to the death of Dr. E. G. Loring; and Dr. Charles J. Kipp was appointed to prepare a similar minute in regard to the death of Dr. Joseph Oub.

DR. C. S. BULL, of New York, presented

A CONTRIBUTION TO THE TREATMENT OF MEMBRANOUS OPACITIES IN THE VITREOUS HUMOR.

These opacities, in the form of membranes or shreds, are rarely freely movable and usually resist internal treatment. Operation by incision with a needle was first performed by von Gräfe. In the experience of the writer, the operation had been found useful. Some opacities resulting from hemorrhage or from inflammation of the choroid respond to internal remedies, but, as a rule, these remedies fail. By incision of the membrane a direct improvement of vision may be obtained and the process of absorption may be stimulated. Posterior opacities are more easily reached, with less danger to the lens and with more favorable results than in the case of anterior opacities. The author has performed this operation in seventeen cases of chronic membranous deposits in the vitreous. In some cases, the ordinary incision needle was used, in others, a broader needle, and in a few, a slender cataract knife. Cocaine was employed in all cases. The point selected by preference for the introduction of the needle was just in front of the equator of the eye and below the insertion of the external rectus muscle. There seems in this operation to be no danger of loss of vitreous through the small opening, nor is there danger of hemorrhage. The puncture should be posterior to the ciliary process, and pressure with the forceps should be avoided. As a rule, little or no reaction follows the operation. A protective bandage is required only a few days. Antiseptics were employed in all cases.

The details of the seventeen operations on fifteen patients were given. Fourteen showed decided improvement in vision. Three were failures. There was no loss of vision from the operation in any case. The operation is appropriate in certain cases, but it is wise to wait until all inflammatory symptoms have subsided before attempting any operative procedure. The eye should be absolutely free from all irritation before surgical interference is attempted.

DR. W. F. MITTENDORF, of New York, thought that vascularity of the vitreous membrane should always speak against operations of this kind. Vascularity, even if all inflammatory signs have subsided, points to a fatal prognosis.

DR. F. BULLER, of Montreal, reported

A CASE OF PULSATING EXOPHTHALMOS CURED BY LIGATION OF THE COMMON CAROTID ARTERY.

He had seen four cases of this affection. In the first the condition followed a blow upon the head. Some months after the appearance of the pulsatory exophthalmos, ligation of the carotid was performed, but the patient died in the course of a few weeks from repeated attacks of epistaxis. The second case has already been reported.

In the third case the affection followed a blow on the brow with a piece of iron. The patient was seized with severe epistaxis and died in a few minutes. There was found a depressed fracture of the frontal bone, with a fissure extending across the orbital roof and the body of the sphenoid bone directly beneath the cavernous sinus. As a result of caries of the bone there was a direct communication between the nasal cavity and the internal carotid artery.

The fourth case, the subject of the paper, came under

observation May 24, 1888. A man, aged twenty-eight, fell a distance of twenty feet, striking the right side of his head, rendering him unconscious for twenty-four hours. After the swelling had subsided, the patient noticed diplopia, one image being higher and less distant than the other. There was also a loud beating sound in the right ear. Two weeks before coming under observation, prominence of the eye was noticed. There was still diplopia, the higher image moving up and down with each heart-beat. Four days before coming under notice, the pain became intense. On examination there was found at the inner extremity of the right brow a swelling which imparted a distinct thrill to the finger. There was also a harsh bruit. Pressure over the common carotid artery diminished the intensity of the thrill and lessened the pulsation.

It was decided to ligate the common carotid in the upper part of its course, and this was done May 25th, two ligatures being applied and the vessel being divided between them. The immediate effect was softening of the swelling, partial reposition of the eyeball, great diminution in the pulsation and disappearance of the bruit. The patient made a good recovery, and left the hospital with very little prominence of the ball.

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V = _{xx}. H. Movements normal.

DR. CHARLES J. KIPP, of Newark, reported a case of

PULSATING EXOPHTHALMOS.

A lady, seventy-six years of age, presented herself, with the history that, shortly after striking the head in a fall, she noticed a noise in both ears, followed by protrusion of both eyeballs, the right four-tenths of an inch, the left two-tenths. There was no marked pulsation, but there was a thrill, and a bruit could be heard over the anterior half of the head. This could be arrested by compression of the right carotid artery and partially so by compression of the left carotid. In view of the age of the patient, no radical measures were recommended, but it was suggested that pressure be made on the right carotid as often as convenient. Iodide of potassium was also given. Three months later the patient stated that the noise had suddenly disappeared. This was followed by the disappearance of the exophthalmos, first in the left eye and subsequently in the right. The external appearance of the eyes is now normal. There is, however, a marked pulsation of the right subclavian artery, but no aneurism can be discovered.

DR. D. S. RISLEY, of Philadelphia, called attention to the fact that Dr. Harlan had reported a case of this kind cured by compression, and that he had himself reported a case in which compression of the vessel for a short time was followed by the disappearance of the symptoms and the subsidence of the exophthalmos.

DR. SWAN M. BURNETT, of Washington, presented an

ANALYSIS OF 576 CASES OF REFRACTION OF HEALTHY HUMAN CORNEÆ, EXAMINED WITH THE OPHTHALMOMETER OF JAVAL AND SCHIOTZ.

These 576 corneaæ belonged to 301 persons examined within a little over a year by Dr. Burnett. Pathological states of the corneaæ were excluded for consideration at another time. The corneal refraction was found to be the same in both eyes to within 0.25 D. in 110 persons. The horizontal meridian (to within 5°) was the least

refractive (astigmatism according to the rule) in 420 eyes. The vertical meridian was the least refractive (astigmatism against the rule) in 20 eyes. In 88 eyes the meridians were oblique. In 58 eyes the difference in the refraction of the two meridians was less than 0.25 D. In 101 eyes there was emmetropia. The largest number had a corneal refraction of from 44 D. to 45 D.; the next largest from 43 D. to 44 D. The strongest corneal refraction was 47 D., the weakest 39 D. In 55 eyes there was simple myopia. The strongest refraction in the weakest meridian was 47.25 D.; the weakest 39 D. The corneal refraction did not in any considerable number of cases bear any close relation to the degree of the myopia. Simple hypermetropia was present in 59 eyes. Weakest refraction in the weakest meridian was 40.5 D.; the strongest 46 D. As in myopia, the corneal refraction was no indication as to the degree of general hypermetropia. Myopic astigmatism was found in 140 eyes. In 4 eyes the general astigmatism was greater, and in 11 it was less than the corneal. In 14 eyes the difference in the axes of the corneal membrane and that of the prescribed glasses was greater than 5°. Hypermetropic astigmatism was present in 96 eyes. In 4 eyes the corneal astigmatism was greater, and in 2 eyes it was less than the general. The axes corresponded in all but 9 eyes. Compound myopic astigmatism existed in 63 eyes. In all but 7 eyes the corneal and general astigmatism corresponded, and in 44 eyes the axes corresponded. Compound hypermetropic astigmatism was found in 55 eyes. In 31, corneal and general astigmatic meridians corresponded. The corneal and general astigmatism was the same in all but 4 eyes. Mixed astigmatism was present in 8 eyes. In 4 the corneal and general astigmatism was the same. In 2 the corneal was less and in 1 greater than the general. Corneal and general astigmatic meridians were the same in 5 eyes. In 42 eyes the general astigmatism was against the rule, while in only 18 of these eyes was the corneal astigmatism against the rule. From examinations under a mydriatic, the author felt himself warranted in thinking that many cases of lenticular astigmatism are due to an oblique position of the lens.

Corneal astigmatism is, with very few exceptions, according to the rule (vertical meridian the stronger). From study of these statistics, the author feels warranted in concluding that while the corneal refraction gives no indication of the general refraction of the eye, its astigmatism, in the vast majority of cases, expresses the general astigmatism, both as to degree and direction of its axis, and he considers, therefore, the instrument of Javal and Schiottz one of if not the most important instrumental means for the diagnosis of the anomaly. He does not think astigmatism more productive of progressive myopia than any other form of ametropia.

DR. NOVES had used the ophthalmometer of Javal and Schiottz with great satisfaction. In the immense majority of cases the evidences of the ophthalmometer, without the use of atropine, have corresponded with the evidences of the trial case. The amount of astigmatism and, in a general way, the axis of the astigmatism is obtained. The use of this instrument has led him to believe that mixed astigmatism is more common than we usually imagine. He also noted the influence of the eyelids in altering the curvature of the cornea, and had satisfied himself that the tension of the eye muscles modifies the

curvature of the cornea. He had also noticed in some cases a pulsation of the corneal reflex, due to the fact that the cornea was so thin that the circulation of the eye impressed itself upon it. This was seen particularly in conical corneæ. The use of this instrument does away, to a large extent, with the necessity for the employment of atropine.

DR. SAMUEL THEOBALD, of Baltimore, inferred that the author thought that, when a mydriatic was employed, the lenticular astigmatism was done away with. His experience led him to believe that the asymmetrical condition of the lens does not at once disappear on paralysis of the ciliary muscle. The discrepancy between the total and general astigmatism may often be accounted for by this persistent asymmetrical condition of the lens. This condition gradually disappears after suitable glasses are worn.

DR. B. ALEX. RANDALL, of Philadelphia, could not agree with the author, that simple astigmatism is so common and predominates over other forms. Taking the records of the Hospital of the University of Pennsylvania for the last ten years, he found 4000 refraction cases determined, almost without exception, under a mydriatic. Compound hypermetropic astigmatism constituted about 40 per cent.; compound myopic astigmatism constituted 30 per cent.; simple myopia and hypermetropia about 8 per cent. and 12 per cent. respectively; mixed astigmatism, only about 1 or 2 per cent.; compound astigmatism constituted at least 70 per cent. of the total number of cases.

DR. EDWARD JACKSON, of Philadelphia, exhibited

A NEW FORM OF CATARACT KNIFE,

designed to combine the advantages of the Gräfe and Beer knives. The point, resembling that of the Gräfe knife, allowed the puncture and counter-puncture to be made in the same way as with the Gräfe knife; whilst the rest of the blade, having the shape of Beer's knife, enabled one to complete the incision as with that instrument. With it the puncture and counter-puncture are completely under control, the flap is completed at a single thrust, the aqueous is not lost until the incision is nearly finished, and the counter-pressure, by the back of the knife, assists in steadyng the eye.

DR. EDWARD JACKSON read a paper on

CEDEMA OF THE CHOROID AND RETINA.

He reported the case of a young man, struck in the eye with a marble or small stone, causing a bruise of the eyeball. The ophthalmoscope showed localized swellings of the choroid and retina at the posterior pole of the eye; the choroidal spots having the usual grouping of ruptures of the choroid in that region. These spots disappeared in about a week. There was also at first some 0.75 D. myopic astigmatism, which gradually diminished, and in three weeks entirely disappeared, leaving the sight perfect.

DR. W. F. MITTENDORF, of New York, then presented a paper on

SYMPTOMATIC MYOPIA.

But little attention has been called to myopia as a symptom of various affections of the eye. Three-fourths of the cases of myopia may be spoken of as: axillary, refractive and symptomatic. The latter form may be caused by traumatism, but more commonly by diseased conditions.

It may be produced by displacement of the lens forward. More frequently it is due to swelling of the lens accompanying beginning cataract. This is sometimes relieved by the use of concave glasses; very strong glasses being occasionally required. Plastic exudations may also cause myopia, but these usually so interfere with vision that it is impossible to demonstrate the existence of myopia. Glaucoma, serous choroiditis and iritis are frequently accompanied with myopia as a symptom. A number of illustrative cases were cited. In these cases the myopia was not permanent, but as the disease disappeared the myopia passed away, leaving the refractive condition of the eye the same as before the attack.

DR. J. O. TANSLEY, some years ago, reported a case of localized exudative choroiditis just beneath the macula, with myopia. The myopia gradually increased as the attack reached its height, and as the inflammation subsided the myopia passed away.

DR. CARL KOLLER, of New York, thought that, in these cases of myopia in iritis, the condition might be due to the irritation of the ciliary muscle. There is hyperæmia of the ciliary body, and as the irides are contracted it is to be supposed that the ciliary muscle is also contracted. Although atropine may be used, there is not full dilatation of the irides. It is, therefore, reasonable to suppose that the myopia is a result of spastic contraction due to inflammation.

DR. RISLEY said that in a few instances it had seemed to him that in these cases of iritis and choroiditis the myopia was due to the dread of light and the cramp of the lids.

DR. JOHN GREEN, of St. Louis, had, in two attacks of iritis, of which he was himself the subject, carefully studied this myopia. In his case the eyes were completely under the influence of atropia. The pupils were dilated and the ciliary muscle paralyzed.

(To be concluded.)

CORRESPONDENCE.

THE DANGERS OF COCAINE.

To the Editor of THE MEDICAL NEWS,

SIR: Dr. Sims's case of death from cocaine, in THE MEDICAL NEWS of to-day, carries its own comment.

In my recent reprint—at command of any desiring it—more than 120 cases, some of them fatal, of toxic effect from this drug are cited. In a second edition, nearly ready, several others—one fatal—will be noted, proving, beyond dispute, the statement in THE MEDICAL NEWS of April 9, 1887, that "it certainly seems of the greatest importance that the profession in general be reminded that cocaine is not to be used recklessly and without proper care;" and that of *The Medical Press and Circular* of May 23, 1888, that "We do not know the lethal dose of cocaine, and we are not certain of its physiological action, nor do we know the influence of age and disease on its action, but we do know that a powerful therapeutic agent should be used with extreme care when there is so much uncertainty as to its effects;" and that of *The British Medical Journal* of January 21, 1888, that "If it were needful to produce more proof of the unsoundness of Dr. Hammond's statement, Dr. Mattison has effectually done this."

Yours, very cordially,

J. B. MATTISON.

NEWS ITEMS.

The Congress of American Physicians and Surgeons.—The Committee of Arrangements announces that the arrangements are sufficiently advanced to assure the success of the First Triennial Session of the Congress of American Physicians and Surgeons, which will be held in the city of Washington, during the 18th, 19th, and 20th of September next.

A number of distinguished foreign physicians and surgeons have signified their acceptance of the invitation to attend, among whom may be named Sir Spencer Wells, Sir Andrew Clark, Sir William MacCormac, Drs. W. O. Priestley, William Ord and Grainger Stewart, Mr. Lawson Tait, Mr. Victor Horsley, Mr. Thomas Bryant, Mr. Thomas Annandale, Professors Ferrier, Esmarch and Gerhardt, Drs. Rafael Lavista, of Mexico, and J. L. Reverdin, of Geneva.

The preliminary programmes of the participating societies have already been published. The classified and final programmes will be printed and distributed at an early day.

Places of meeting for the Congress and each of the Societies have been secured, conveniently located, so that members may interchange attendance without annoyance. All the sessions will be open to the profession.

The meetings of the Congress will be held in the evenings, beginning at 8 o'clock P. M.; on the evenings of the 18th and 19th the meetings will be held in the main hall of the Grand Army Building, 1412 and 1414 Pennsylvania Avenue, and on the last (Thursday) evening in the Hall of the National Museum. During this evening the Army Medical Museum and Library building, alongside of the Museum building, will be lighted and opened for the inspection of the members and invited guests.

The meetings of the special societies will be held during the day, according to the programme of each, at the following places:

American Surgical Association, Main Hall, Grand Army Building, 1412 and 1414 Pennsylvania Ave.

Association of American Physicians, Hall No. 1, Grand Army Building, 1412 and 1414 Pennsylvania Ave.

American Climatological Association, Hall No. 2, Grand Army Building, 1412 and 1414 Pennsylvania Ave.

American Laryngological Association, Hall No. 3, Grand Army Building, 1412 and 1414 Pennsylvania Ave.

American Dermatological Association, Parlor in Willard's Hotel.

Association of Genito-Urinary Surgeons, Parlor in Willard's Hotel.

American Neurological Association, Parlor in Willard's Hotel.

American Orthopedic Association, Welcker's Hotel, Fifteenth Street N. W.

American Otolological Society, Arlington Hotel, Vermont Ave.

American Physiological Society, Army Medical Museum.

American Ophthalmological Society, Arlington Hotel, Vermont Ave. and H Street.

American Gynecological Society, Columbian University, Fifteenth and H Streets N. W.

American Association of Obstetricians and Gynecologists, National Medical College Building, H Street N. W.

On Monday evening, September 17th, a dinner will be given by members of the Congress to the guests of the participating societies. It will be limited exclusively to members of the Congress and invited guests. Members desiring to participate are requested to notify the Chairman of the Committee of Arrangements.

An informal collation will be served at Willard's Hotel on Tuesday evening, after the adjournment of the session of the Congress. A similar entertainment will be served in the National Museum building on Thursday night, after the final adjournment of the Congress.

The Secretaries of the special Societies are requested to forward to the Chairman the names and addresses of their foreign guests.

Guests are requested to notify the Chairman immediately after their arrival in Washington, of their address and whether they have ladies with them, for the entertainment of whom special arrangements will be made.

Members of the Congress and the guests are expected to register. A Registration Office will be opened in a parlor in Willard's Hotel, from which the mail of the members and guests will be distributed, and at which the city residence of each member or guest can be ascertained.

All communications to the Committee of Arrangements should be addressed to Samuel C. Busey, M.D., Chairman, 1545 I Street, N. W., Washington City.

The British Laryngological and Rhinological Association., recently constituted, held its first general meeting on June 29th, and Sir Morell Mackenzie was elected President, and Mr. Lennox Browne, Dr. G. Hunt Mackenzie and Dr. P. C. Smyly, Vice-presidents.

Investigations, by Dr. Makara, into the Etiology of Carcinoma., are in progress at the surgical clinic of Prof Kováč, at Budapest. The results thus far are negative; specific microorganisms were found neither in carcinoma nor in sarcoma.—*Münchener medizin. Wochenschr.*, July 3, 1888, from *Pest med. chir. Presse*, No. 27.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 24 TO JULY 30, 1888.

VICKERY, RICHARD S., Major and Surgeon (U. S. Army).—Leave of absence extended two months.—*S. O. 166, A. G. O.*, July 19, 1888.

CORSON, JOSEPH K., Assistant Surgeon (U. S. Army).—Leave of absence for one month, with permission to apply for an extension of one month.—*S. O. 78, Headquarters Department of the Columbia, Vancouver's Barracks, Washington Territory*, July 13, 1888.

DAVIS, WILLIAM B., Captain and Assistant Surgeon (U. S. Army).—Will proceed to Fort Niagara, New York, for the purpose of completing his target practice for this year with Company "C," Twenty-third Infantry. Upon completion of this duty, Captain Davis will return to Fort Porter, New York.—*S. O. 145, Headquarters Division of the Atlantic, Governor's Island, New York City*, July 17, 1888.

ROBERTSON, REUBEN L., Assistant Surgeon (U. S. Army).—Is relieved from duty at Fort Keogh, Montana Territory, and will report to the commanding officer at Fort Buford, Dakota, for duty at that post, and by letter to the commanding general, Department of Dakota.—*S. O. 167, A. G. O.*, July 20, 1888.

WOOD, LEONARD, First Lieutenant and Assistant Surgeon (U. S. Army).—Is relieved from duty at Fort Huachuca, Arizona Territory, to take effect at the expiration of his present leave of absence, and will report to the commanding officer, Fort McDowell, Arizona Territory.—*Par. 14, S. O. 162, A. G. O.*, July 14, 1888.